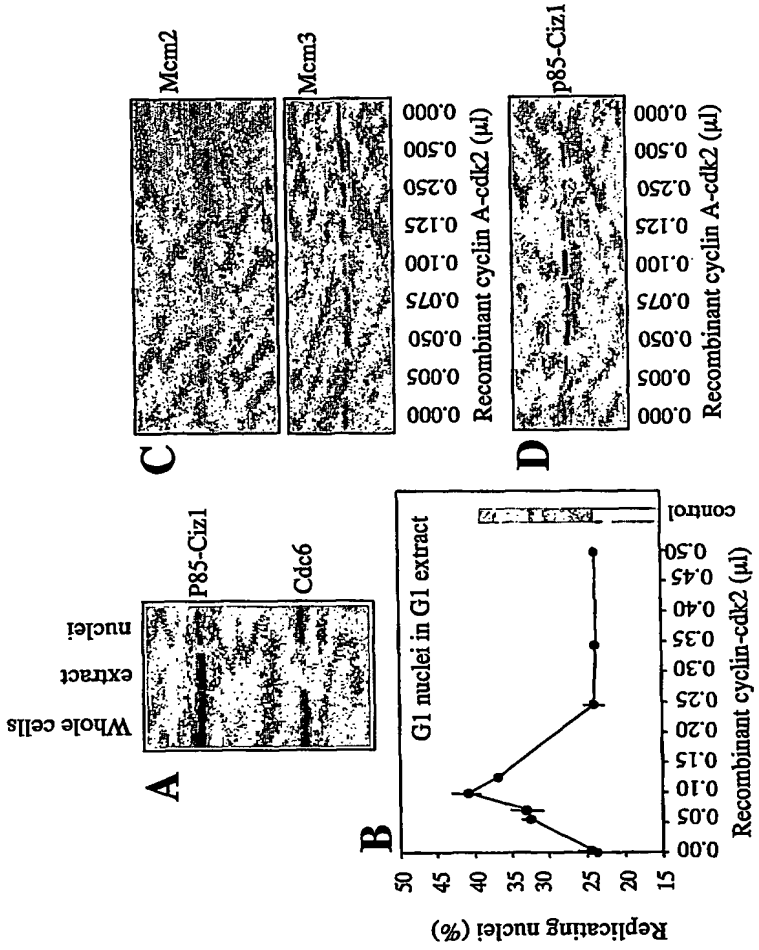
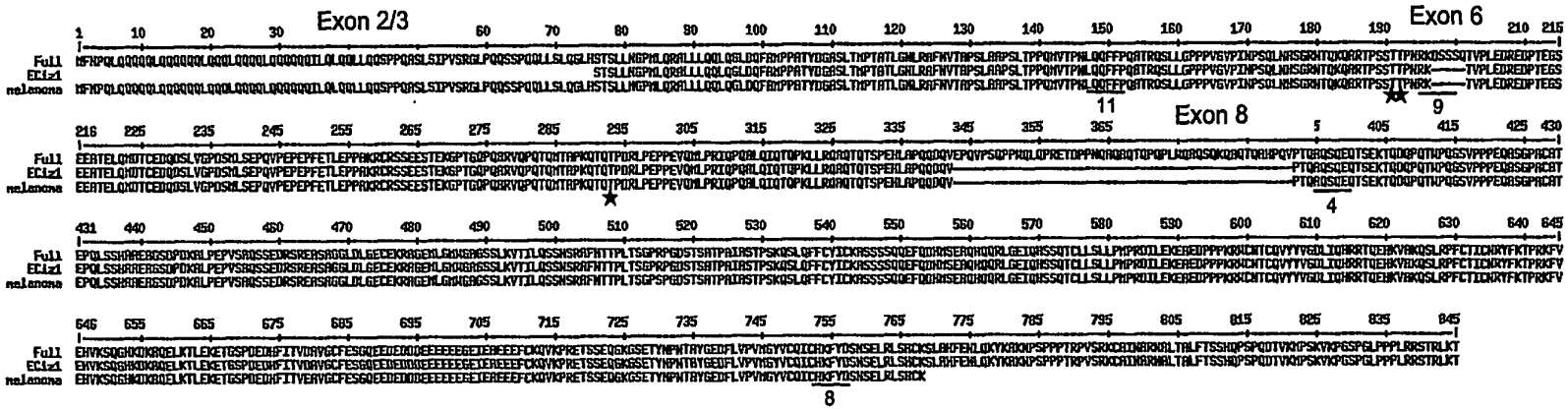


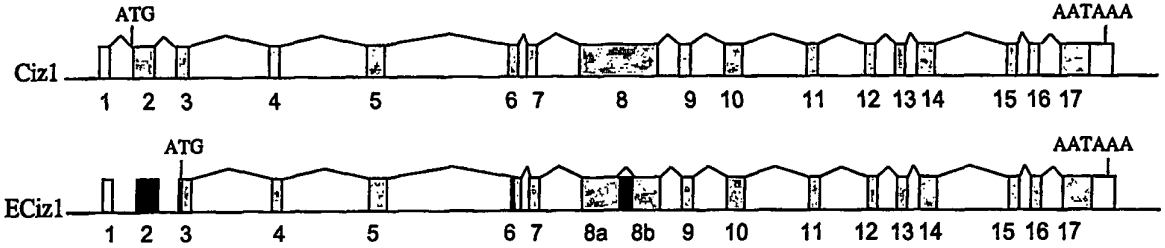
Figure 1A-D

Figure 2A and B

A Mouse Ciz1 isoforms



B Exon usage in mouse embryonic Ciz1



10/537228
PCT/GB2003/005334

Figure 2C and D

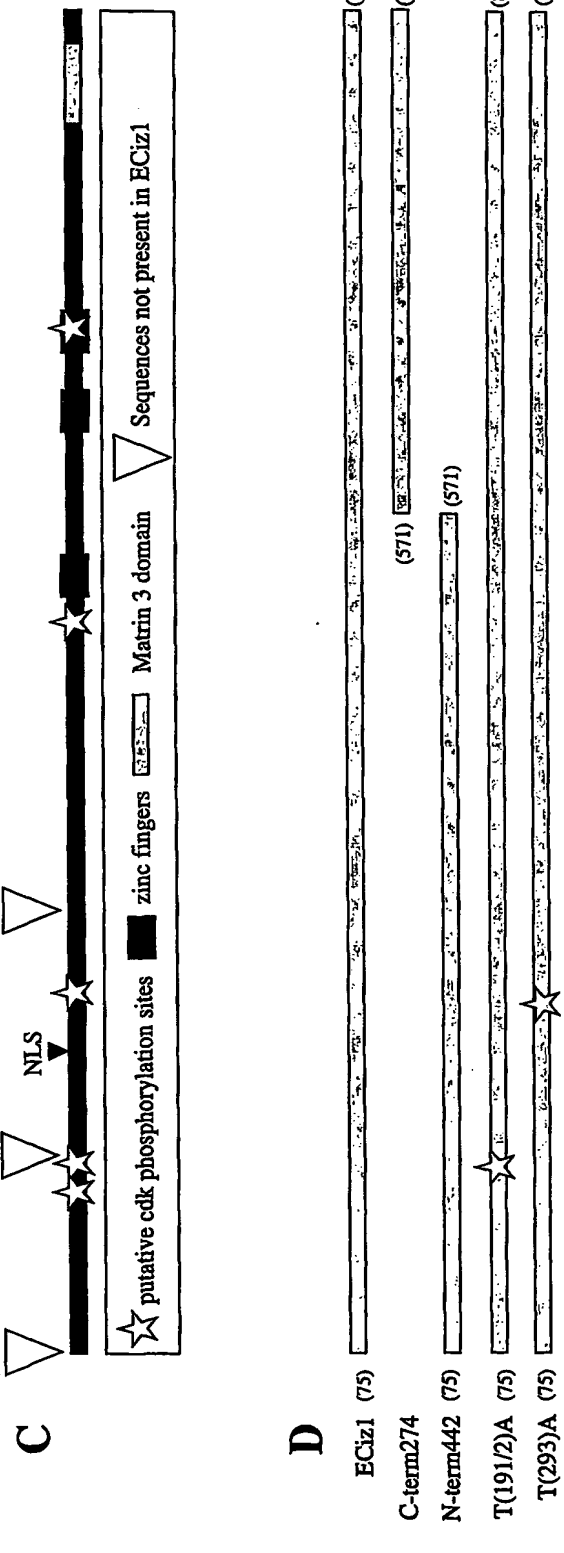
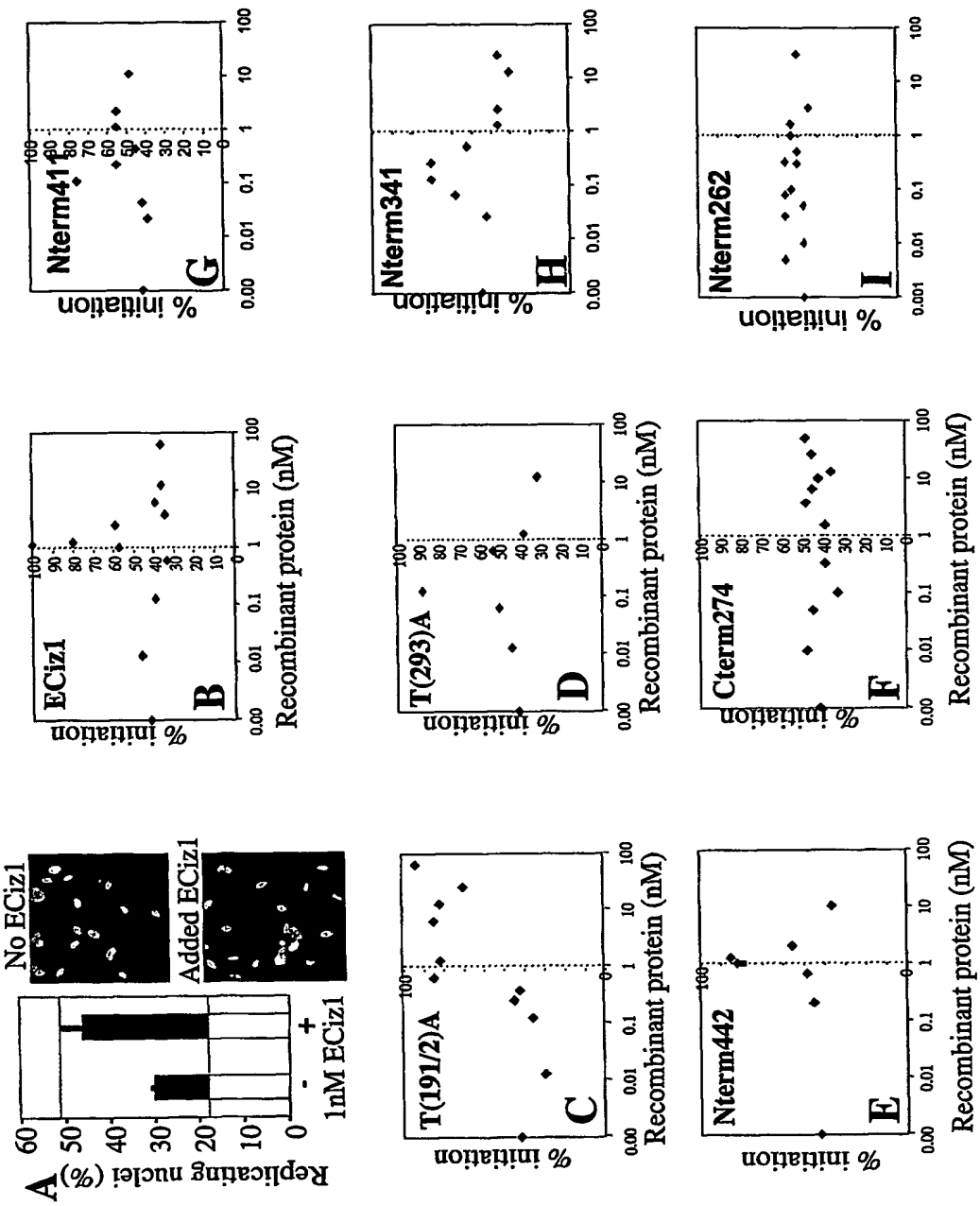


Figure 3A to I



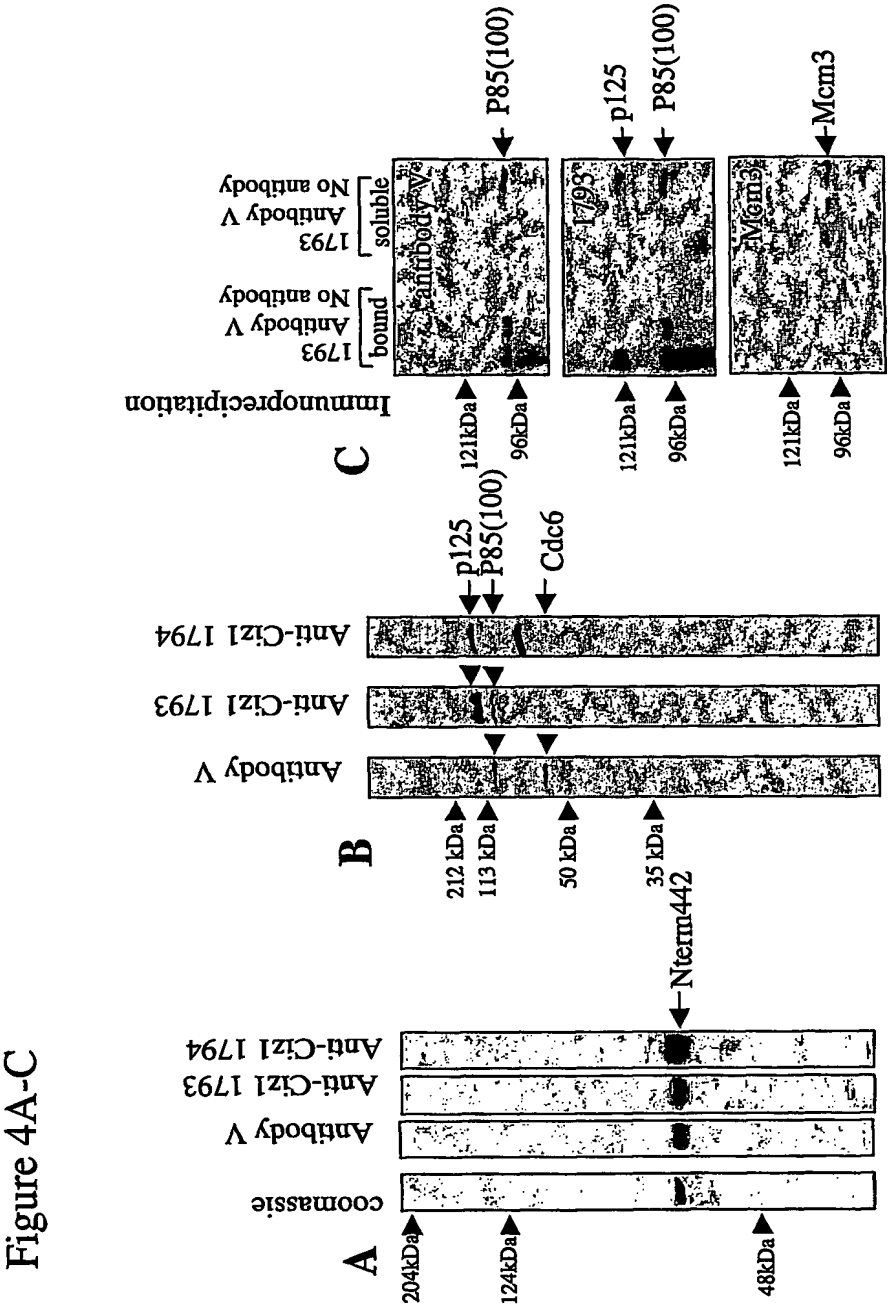
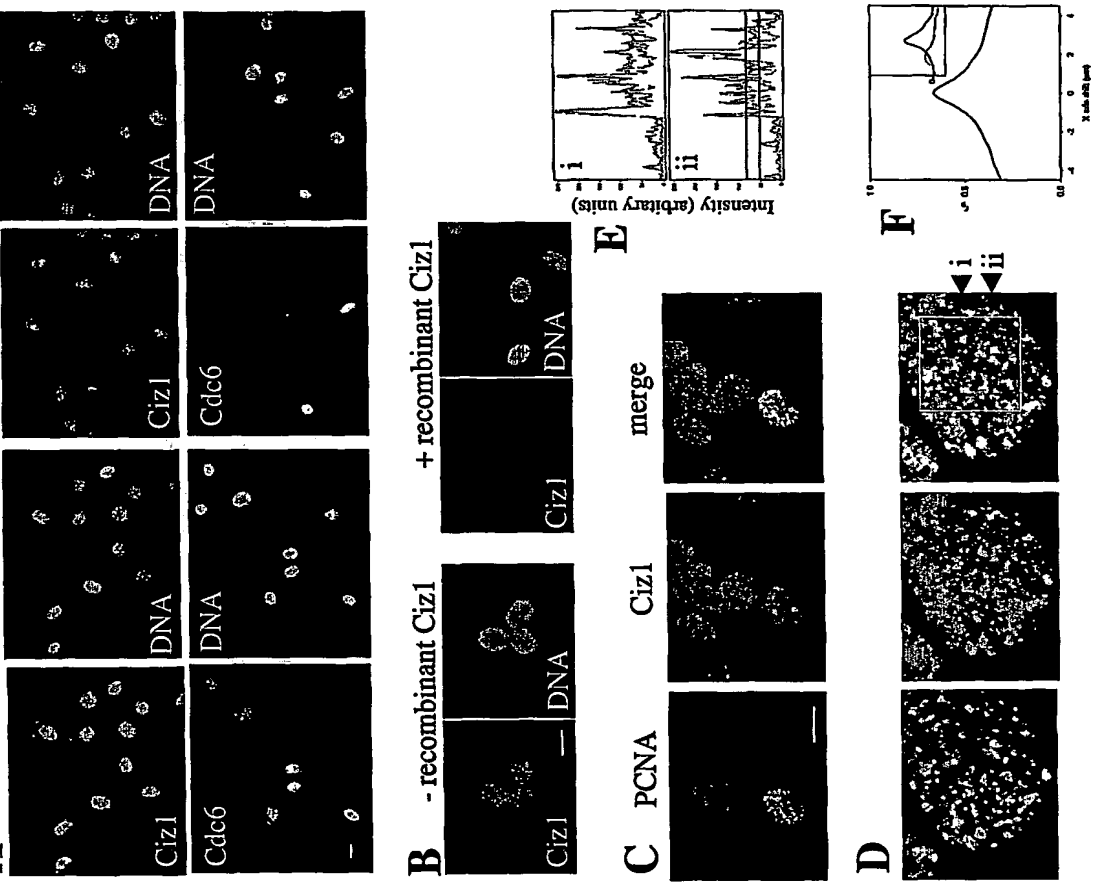
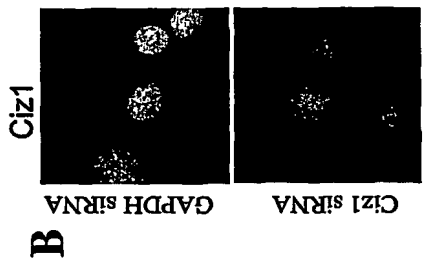


Figure 4A-C

Figure 5A-F





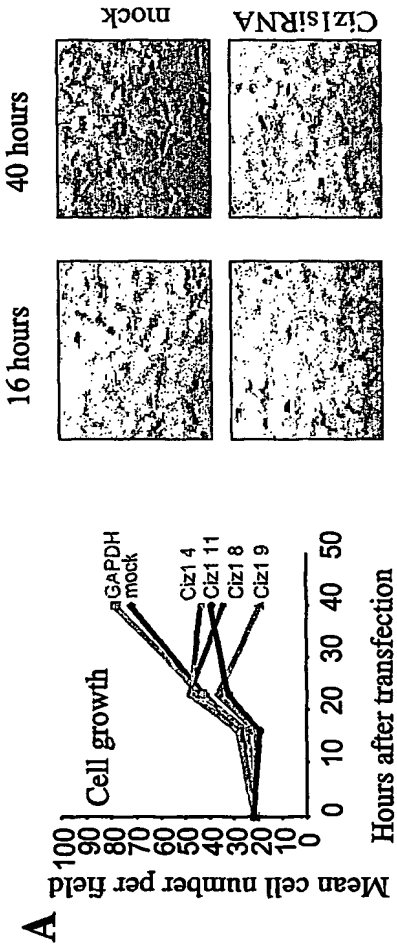


Figure 6A and B

Figure 6C to F

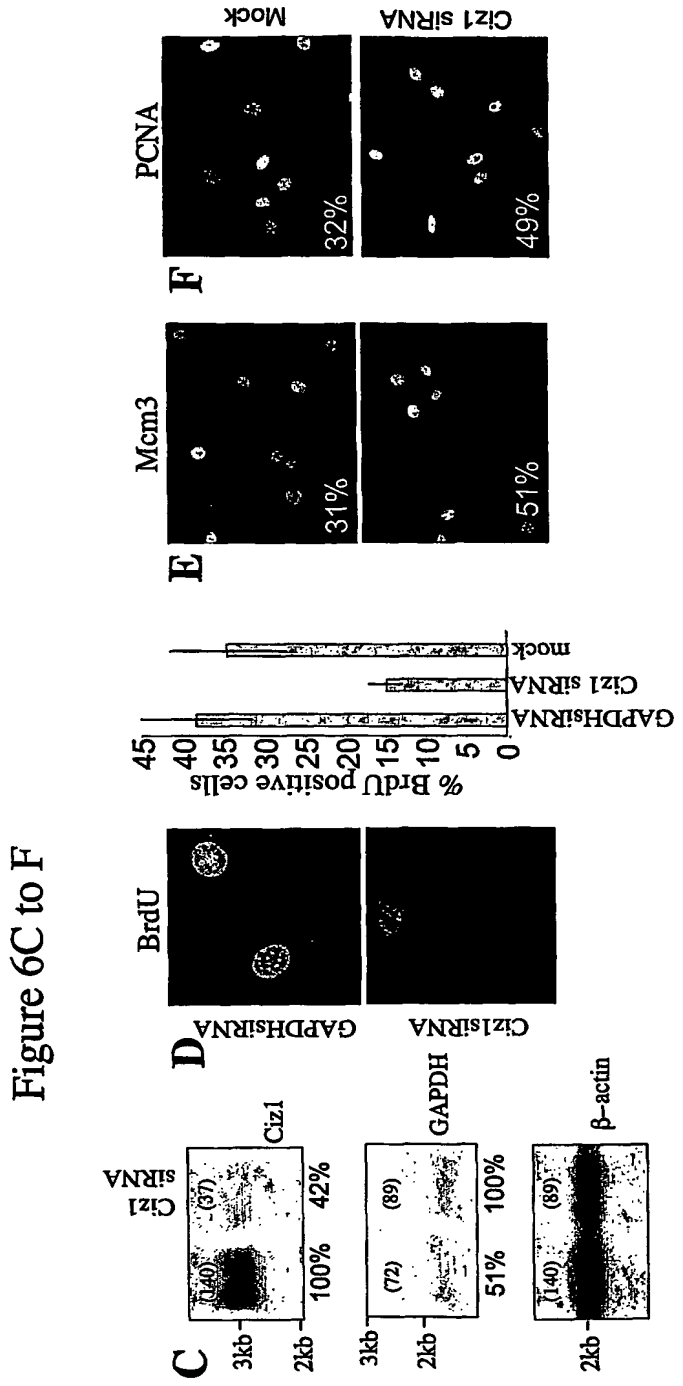
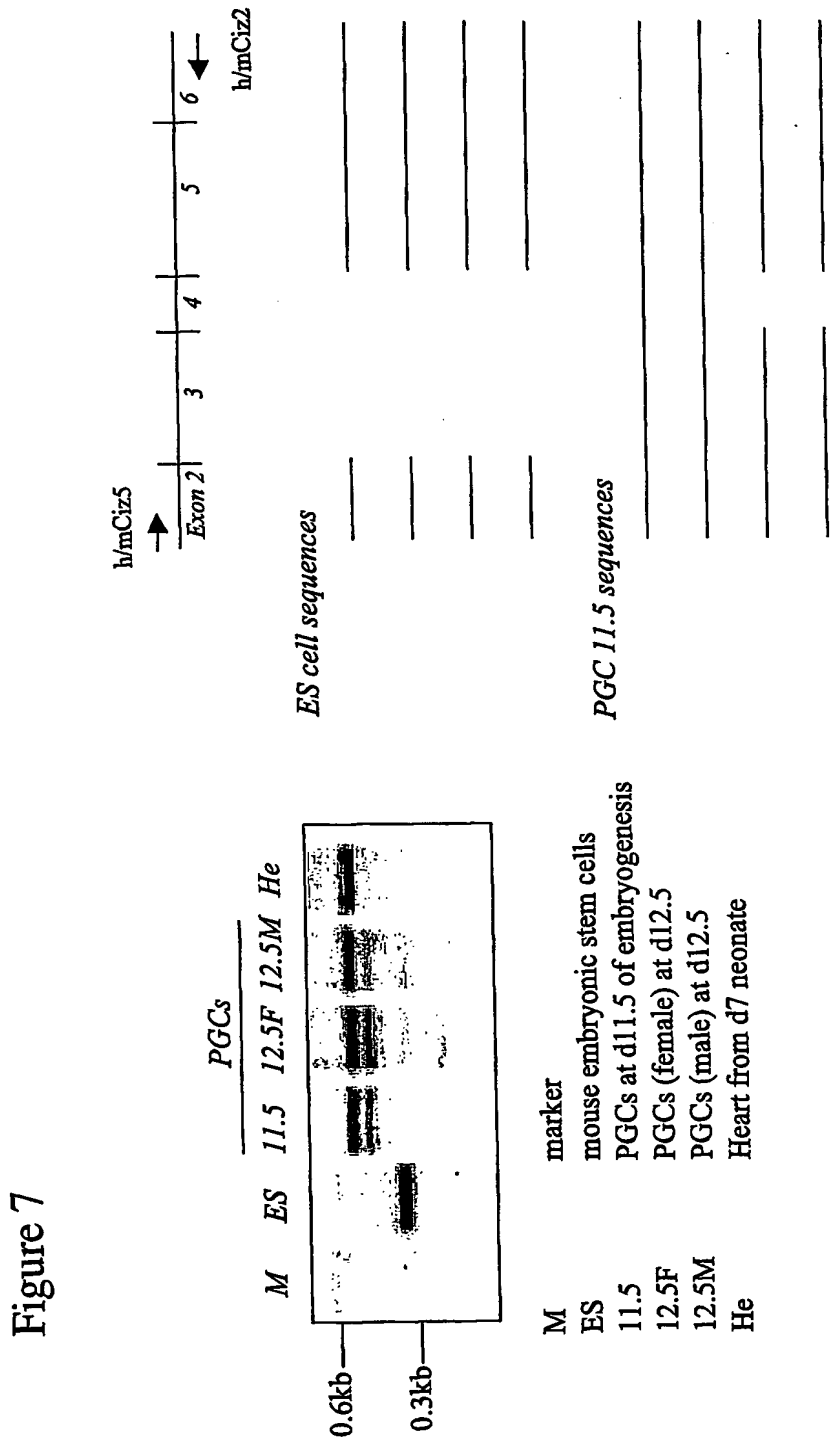


Figure 7


h/mCiz5
Exon 2
3
4
5
6
h/mCiz2
ES cell sequences
PGC 11.5 sequences
PGCs
M ES 11.5 12.5F 12.5M He
0.6kb
0.3kb
M marker
ES mouse embryonic stem cells
11.5 PGCs at d11.5 of embryogenesis
12.5F PGCs (female) at d12.5
12.5M PGCs (male) at d12.5
He Heart from d7 neonate

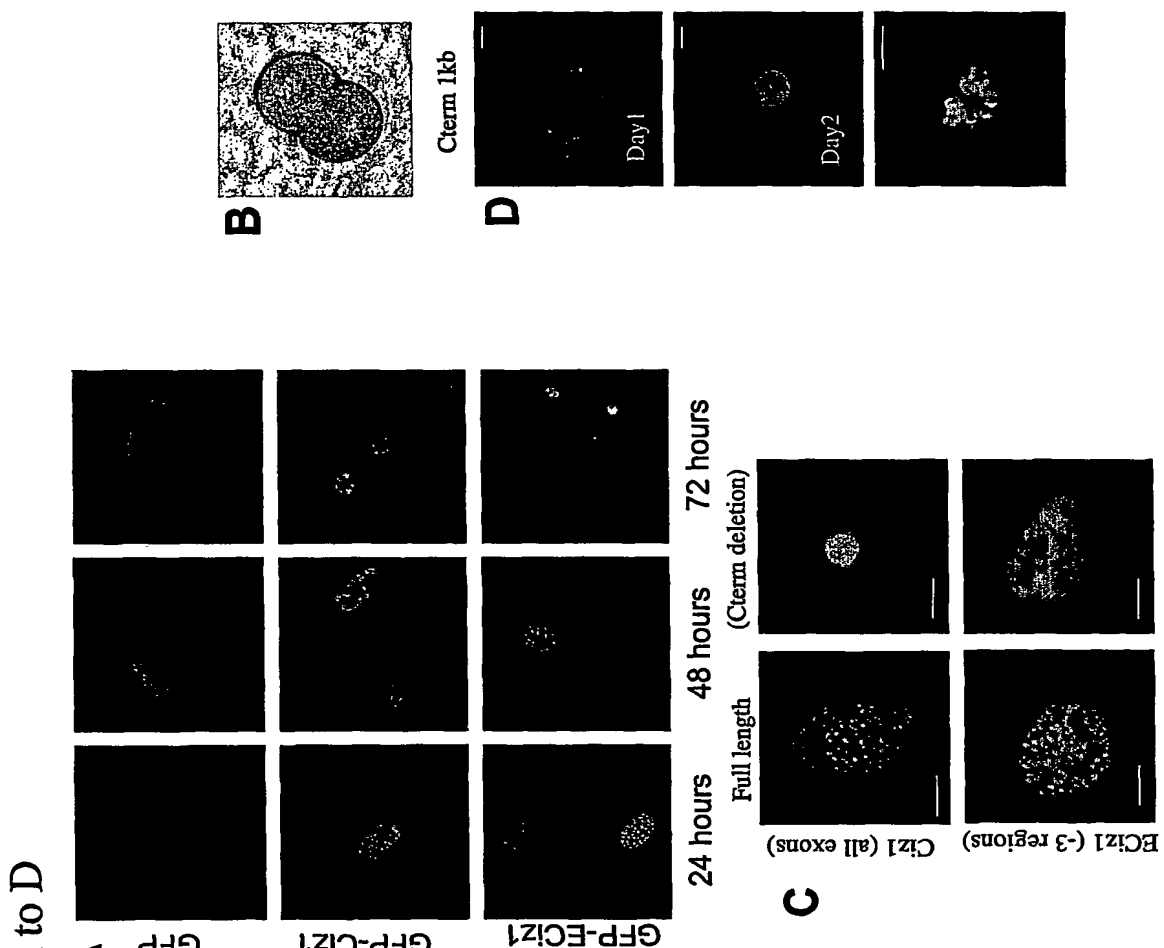


Figure 8A to D

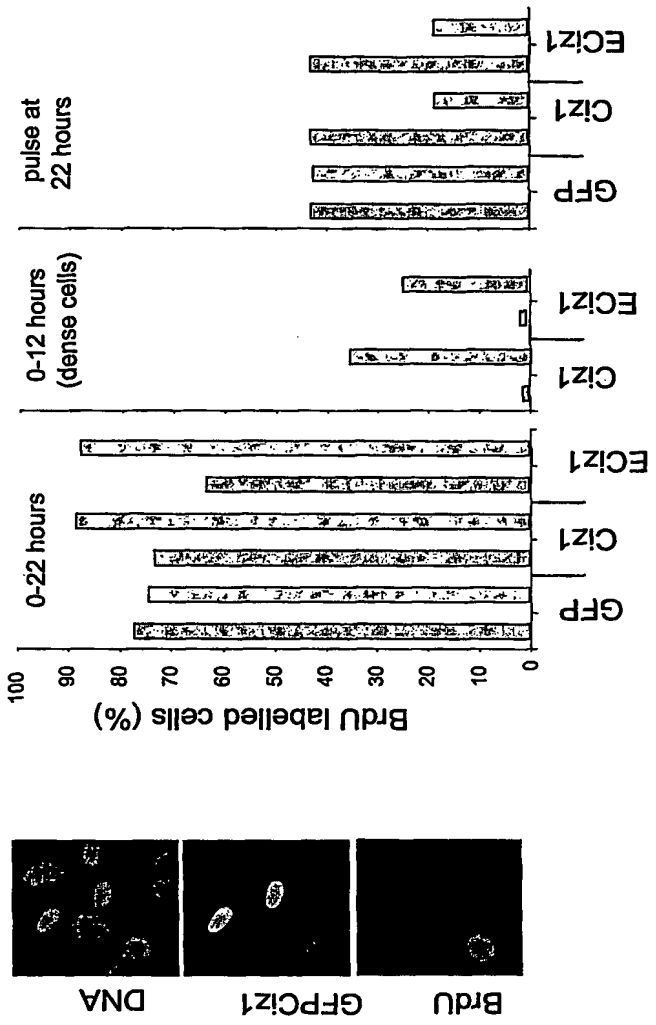

pulse at
22 hours
0-12 hours
(dense cells)
0-22 hours
GFP
Cizl
ECizl
BrdU labelled cells (%)
100
90
80
70
60
50
40
30
20
10
0
BrdU
GFPCizl
DNA

Figure 8E

Figure 9A

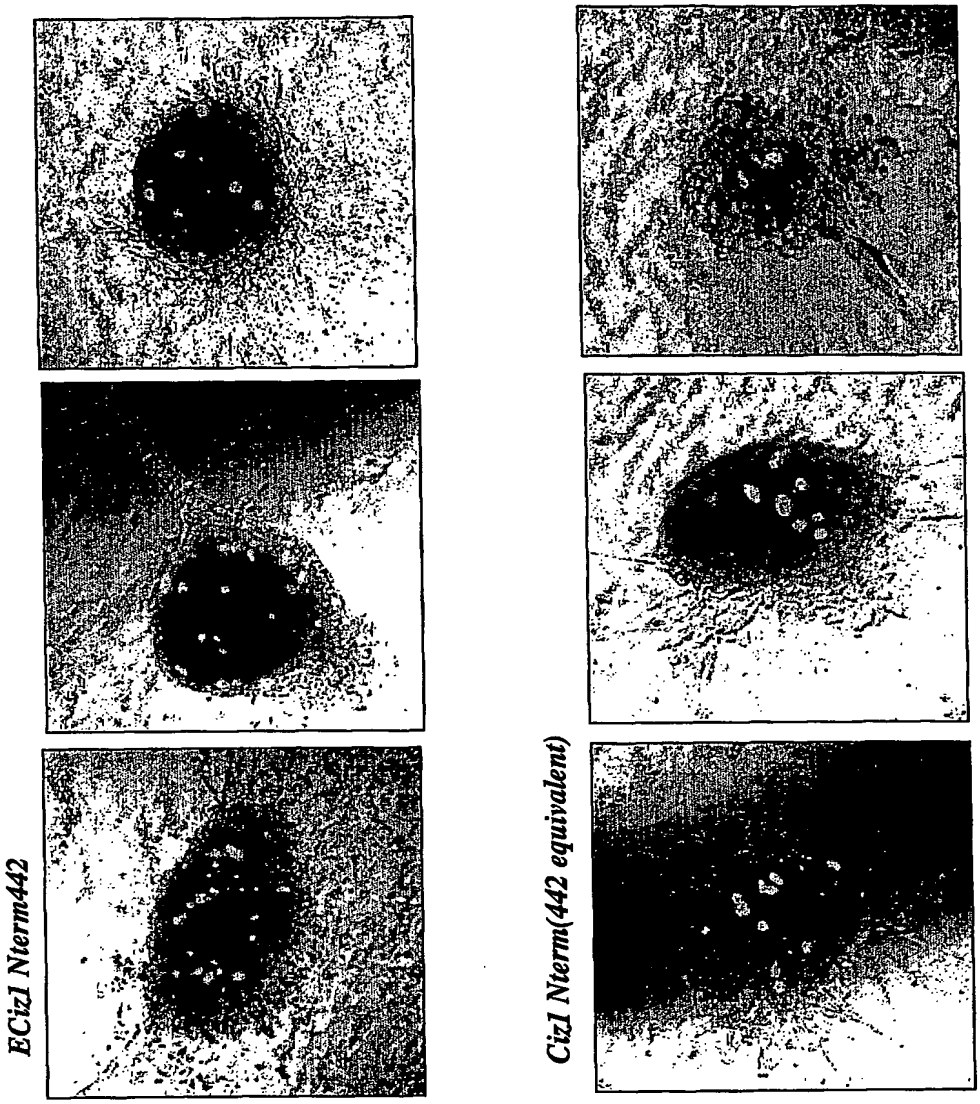


Figure 10

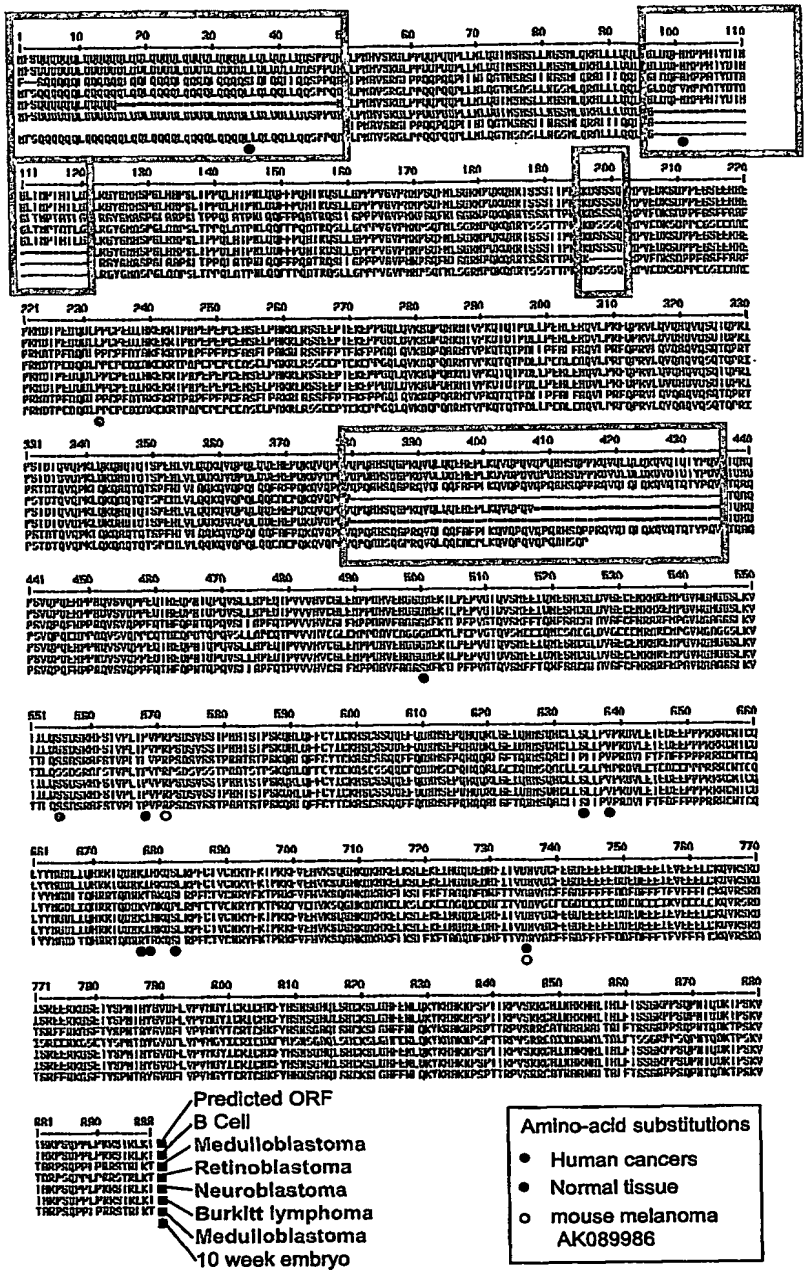

Predicted ORF
B Cell
Medulloblastoma
Retinoblastoma
Neuroblastoma
Burkitt lymphoma
Medulloblastoma
10 week embryo
Amino-acid substitutions
Human cancers
Normal tissue
mouse melanoma AK089986

Figure 11a

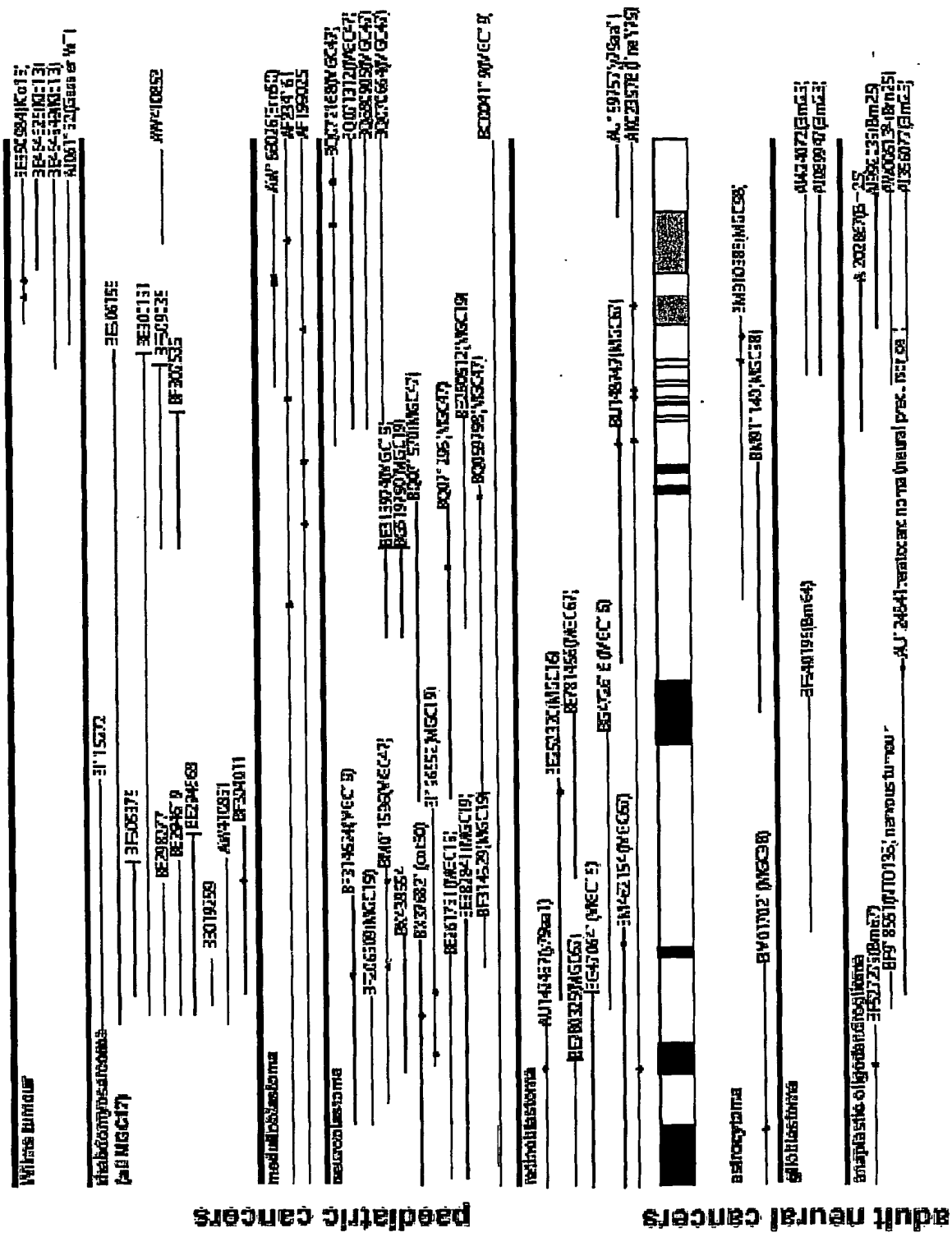


Figure 11b

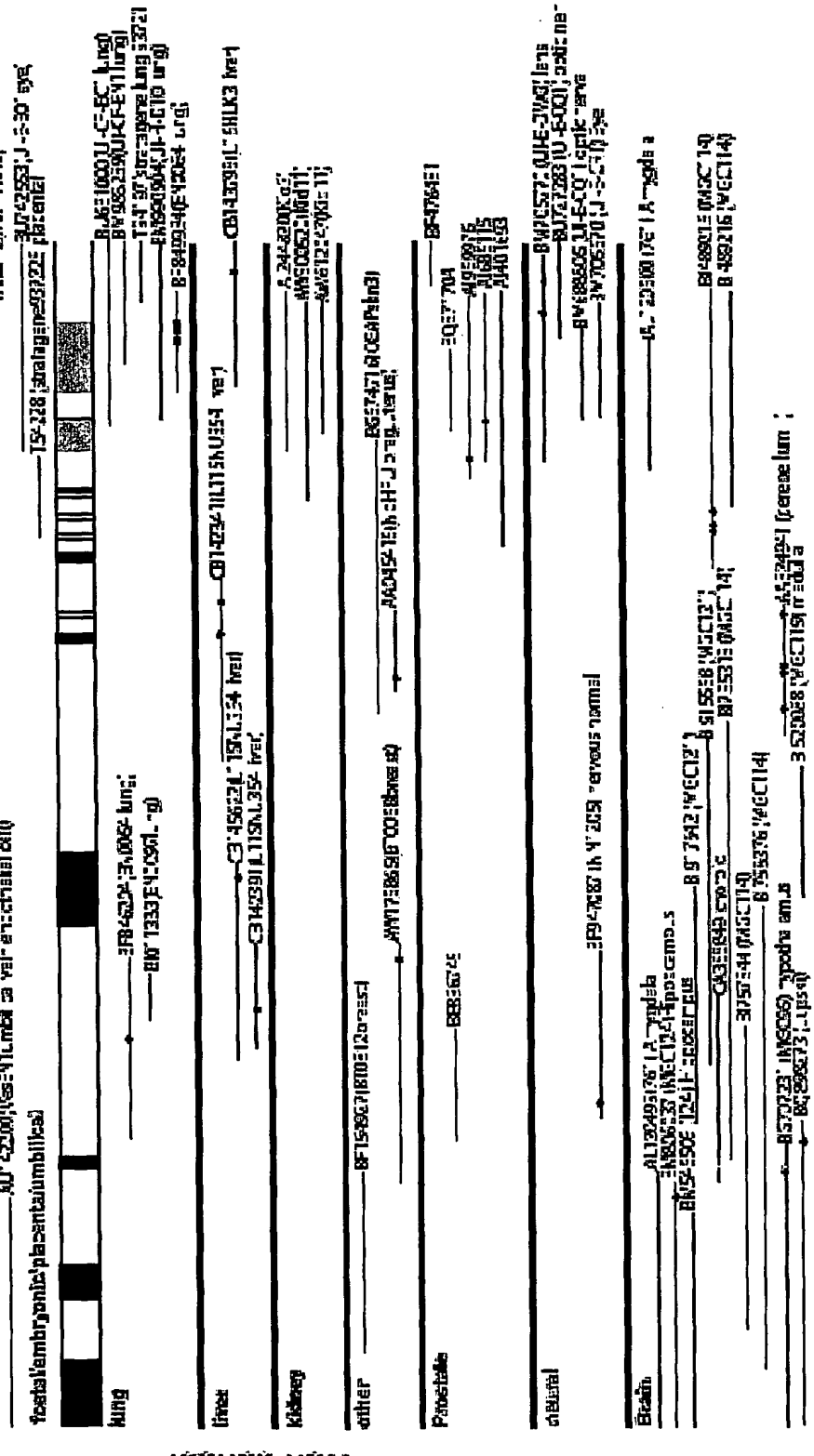

Non-cancer
Brain
Breast
Colon
Kidney
Liver
Lung
Ovary
Prostate
Testis
other

Figure 11c

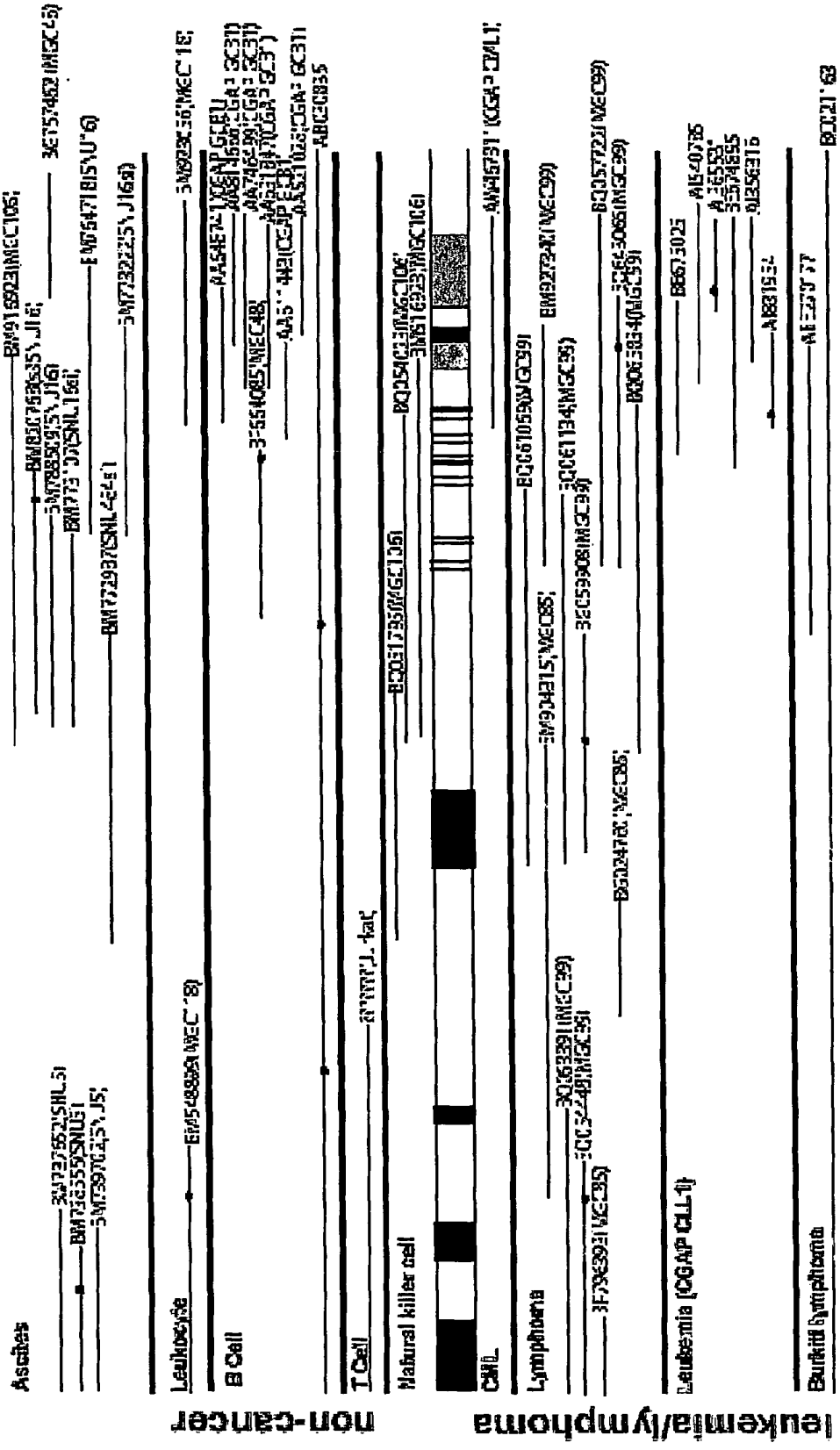

Ascites
Leukocyte
B Cell
T Cell
Natural killer cell
CML
Lymphoma
Leukemia (CGAP CLL1)
Burkitt lymphoma
non-cancer
leukemia/lymphoma

Figure 11d

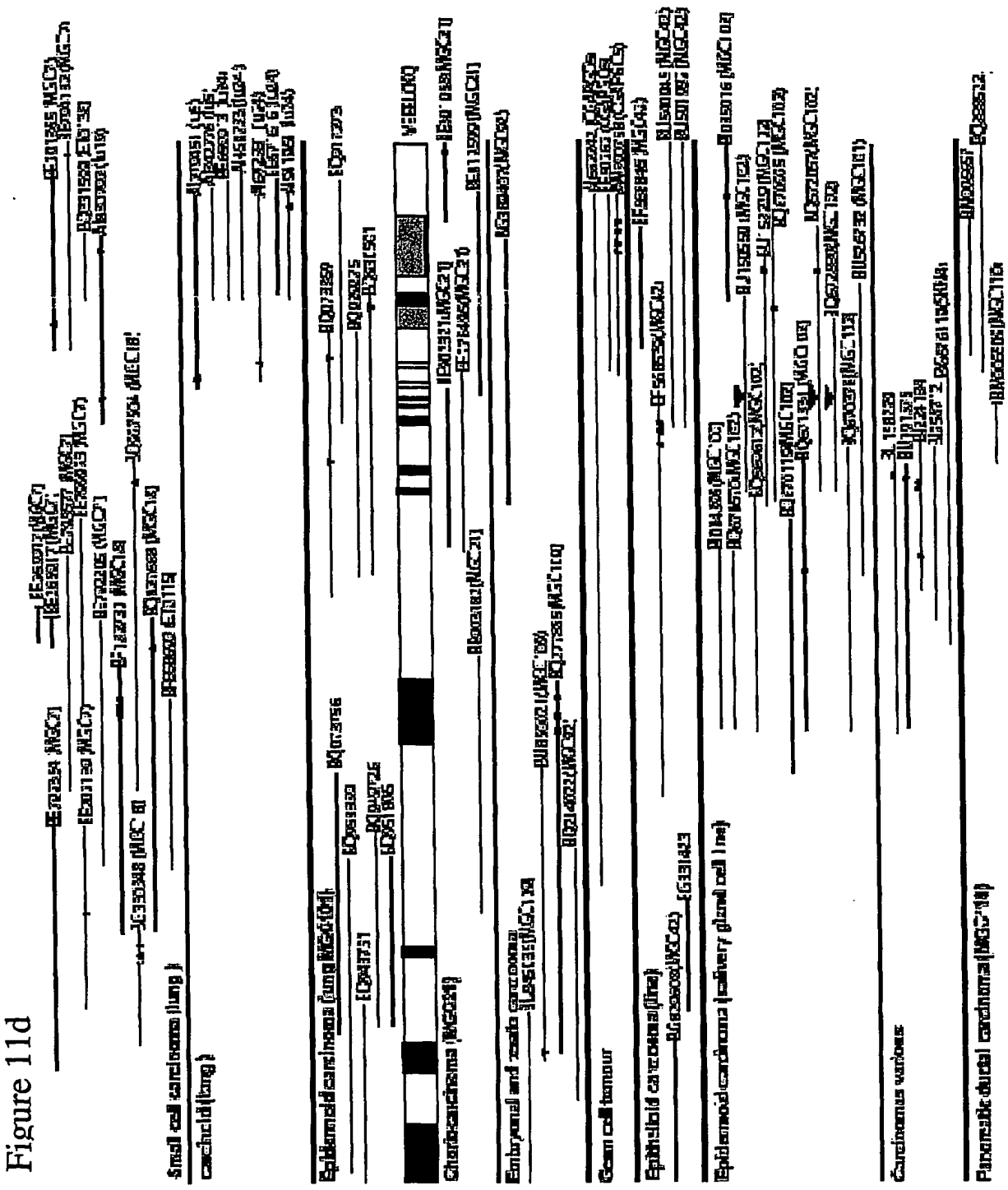


Figure 11e

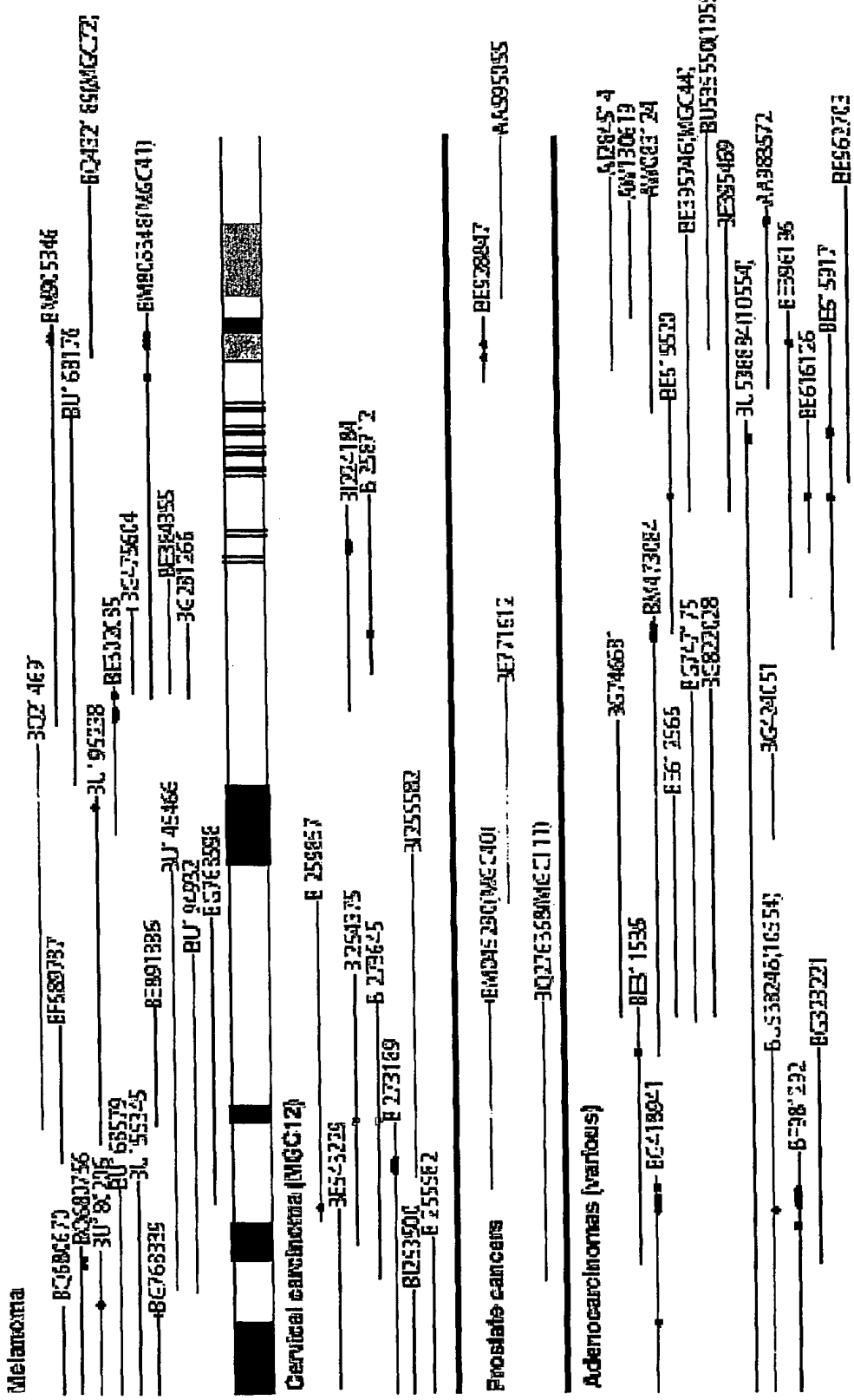

Melanoma
Cervical carcinoma (MGC12)
Prostate cancers
Adenocarcinomas (various)

Figure 11F

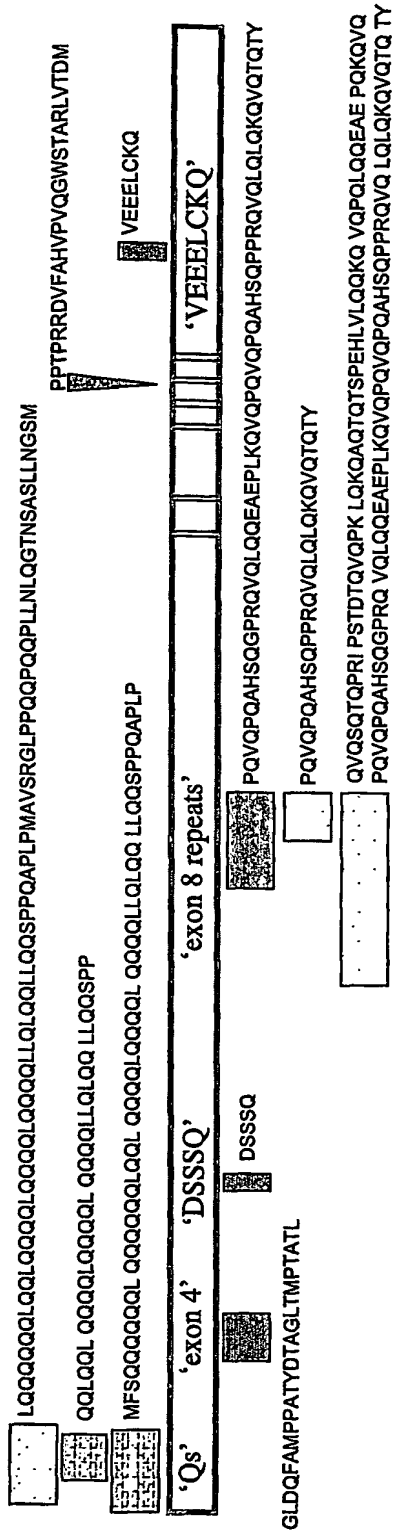

LQQQQQQLQQLQQQQLQQQQLLQQLLQQSPPQAPLPMAVSRGLPPQQPQQPLLNLQGTNSASLLNGSM
QQLQQL QQQQLQQQQL QQQQLLQLQQ LLQQSPP
MFSQQQQQQL QQQQQQLQQL QQQQLQQQQL QQQQLLQLQQ LLQQSPPQAPLP
PPTPRRDVFAHVPVQGWSTARLVTDM
VEEELCKQ
'Qs' 'exon 4' 'DSSSQ' 'exon 8 repeats' 'VEELCKQ'
DSSSQ
GLDQFAMPPATYDTAGLTMPTATL
PQVQPQAHSQGPRQVQLQLQQEAEPLKQVQPQVQPQAHSQPPRQVQLQLQKQVQTQTY
PQVQPQAHSQPPRQVQLQLQKQVQTQTY
QVQSQTQPRI PSTDTQVQPK LQKQAQTQTSPEHLVLQQKQ VQPQLQQEAE PQKQVQ
PQVQPQAHSQGPRQ VQLQQEAEPLKQVQPQVQPQAHSQPPRQVQ LQLQKQVQTQ TY

Figure 12A

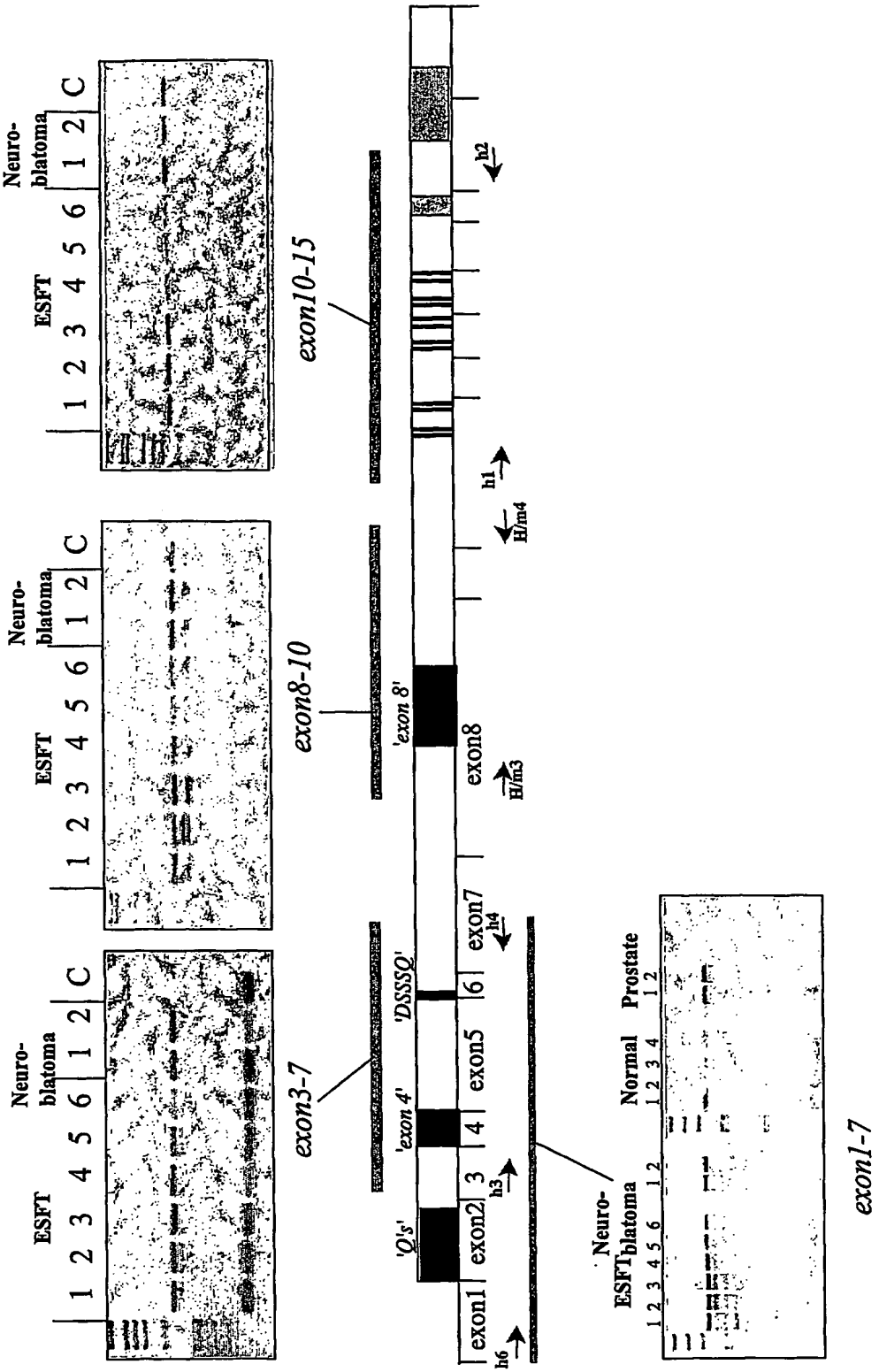

ESFT
1 2 3 4 5 6
Neuro-blatoma
1 2 C
exon3-7
exon8-10
exon10-15
exon1-7
'Q's'
'exon 4'
'DSSSQ'
'exon 8'
exon1
exon2
exon5
exon7
exon8
h1
h2
h3
h4
h6
H/m3
H/m4
Normal Prostate
1 2 3 4

Figure 12B

Summary of PCR products

	1	2	3	4	5	6	N1	N2	293
'DSSSQ'	0	0	0	0	2	0	1	2	0
'exon4'	1*	0	1*	3	0	3	1	0	0
'FL'	4	1	5	2	2	3	8	3	4
other	0	0	0	1	0	0	1	0	0

ESFTs Neuroblastomas
DSSSQ 2/26 DSSSQ 3/16
Exon4 8/26 Exon4 1/16

Examples of PCR products

Ewings 6

Neuroblastoma 2

HEK293

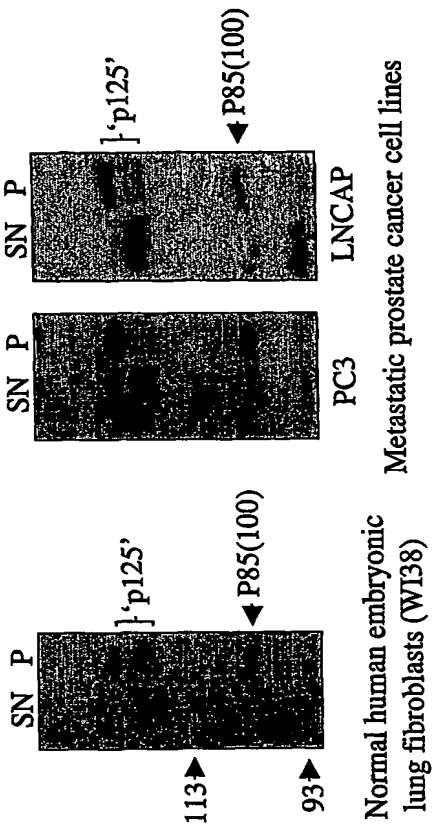

SN P
]'p125'
P85(100)
SN P
SN P
113
93
Normal human embryonic lung fibroblasts (WI38)
PC3
LNCAP
Metastatic prostate cancer cell lines

Figure 13A

Figure 13B

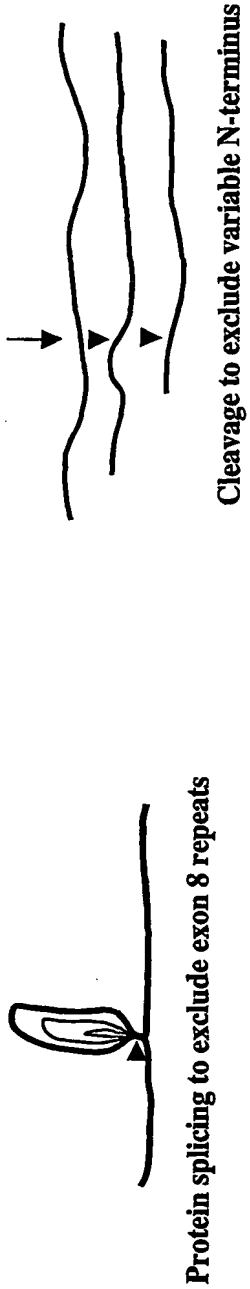

Cleavage to exclude variable N-terminus
Protein splicing to exclude exon 8 repeats

Figure 14

CATGTTCAAC CCGCAACTCC AGCAGCAGCA ACAGTTGCAG CAGCAGCAGC
AACAGTTGCA GCAGCAGCTC CAGCAGCAGC AGCTCCAGCA GCAGCAACAG
CAGATACTGC AGCTCCAACA GCTGCTGCAA CAGTCCCCAC CACAGGCCTC
CTTGTCCATT CCTGTCAGCC GGGGCCTCCC CCAGCAGTCA TCCCCGCAAC
AGCTTCTGAG TCTCCAGGGC CTCCACTCGA CCTCCCTGCT CAATGGCCCC
ATGCTGCAAA GAGCTTTGCT CCTACAGCAG TTGCAAGGAC TGGACCAGTT
TGCAATGCCA CCAGCCACGT ATGACGGTGC CAGCCTCACC ATGCCTACGG
CAACACTGGG TAACCTCCGT GCTTTCAATG TGACAGCCCC AAGCCTAGCA
GCTCCCAGCC TTACACCACC CCAGATGGTC ACCCCAAATC TGCAGCAGTT
CTTTCCCCAG GCTACTCGAC AGTCTCTGCT GGGGCCTCCT CCTGTTGGGG
TCCCAATAAA CCCTTCTCAG CTCAACCACT CAGGGAGGAA CACCCAGAAA
CAGGCCAGAA CCCCCTCTTC CACCACCCCC AATCGCAAGG ATTCTTCTTC
TCAGACGGTG CCTCTGGAAG ACAGGGAAGA CCCCACAGAG GGGTCTGAGG
AAGCCACGGA GCTCCAGATG GACACATGTG AAGACCAAGA TTCACTAGTC
GGTCCAGATA GCATGCTGAG TGAGCCCCAA GTGCCTGAGC CTGAGCCCTT
TGAGACATTG GAACCACCAG CCAAGAGGTG CAGGAGCTCA GAGGAGTCCA
CCGAGAAAGG CCCTACAGGG CAGCCACAAG CAAGGGTCCA GCCTCAGACC
CAGATGACAG CACCAAAGCA GACACAGACC CCGGATCGGC TGCCTGAGCC
ACCAGAAGTC CAAATGCTGC CGCGTATCCA GCCACAGGCA CTGCAGATCC
AGACCCAGCC AAAGCTGCTG AGGCAGGCAC AGACACAGAC CTCTCCAGAG
CACTTAGCGC CCCAGCAGGA TCAGGTAGAG CCACAGGTAC CATCACAGCC
CCCATGGCAG TTGCAGCCAC GGGAGACAGA CCCACCGAAC CAAGCTCAGG
CACAGACCCA GCCTCAGCCC CTCTGGCAGG CGCAGTCACA GAAGCAGGCC
CAGACACAGG CACATCCACA GGTACCCACC CAAGCACAGT CACAGGAGCA
GACATCAGAG AAGACCCAGG ACCAGCCTCA GACCTGGCCA CAGGGGTCAG
TACCCCCACC AGAACAAGCG TCAGGTCCAG CCTGTGCCAC GGAACCACAG
CTATCCTCTC ACGCTGCAGA AGCTGGGAGT GACCCAGACA AGGCCTTGCC
AGAACCAGTA AGTGCCCAGA GCAGTGAAGACAGGAGCCGG GAGGCGTCCG
CTGGTGGCCT GGATTTGGGA GAATGTGAAA AGAGAGCGGG AGAGATGCTG
GGGATGTGGG GGGCTGGGAG CTCCCTGAAG GTCACCATCC TGCAGAGTAG
CAACAGCCGG GCCTTTAACA CCACACCCCT CACATCTGGA CCTCGCCCTG
GGGACTCTAC CTCTGCCACC CCTGCCATTG CCAGCACACC CTCCAAGCAA
AGCCTCCAGT TCTTCTGCTA CATCTGCAAG GCCAGCAGCA GCAGCCAGCA
GGAGTTCCAG GATCACATGT CAGAGGCTCA GCACCAACAG CGGCTTGGGG
AAATACAACA CTCGAGCCAG ACCTGCCTGC TGTCCCTGCT GCCCATGCCT
CGGGACATCC TGGAGAAAGA AGCGGAAGAT CCTCCGCCCA AACGCTGGTG
CAACACCTGC CAGGTGTACT ACGTGGGAGA CTTGATCCAG CACCGTAGGA
CACAGGAGCA CAAGGTTGCC AAACAATCCC TGAGGCCCTT CTGCACCATA
TGCAACCGTT ACTTCAAGAC CCCTCGAAAG TTTGTGGAGC ACGTGAAGTC
CCAGGGACAC AAGGACAAGG CCCAAGAGCT GAAGACACTTGAAAAGGAGA
CAGGCAGCCC AGATGAGGAC CACTTCATCA CTGTGGACGC CGTCGGTTGC
TTTGAGAGTG GTCAAGAAGA GGACGAGGAT GACGACGAGGAAGAAGAAGA
AGAAGGAGAG ATTGAGGCTG AGGAGGAATT CTGCAAGCAG GTGAAGCCGA
GAGAAACATC CTCAGAGCAA GGGAAGGGCT CTGAGACGTA CAACCCCAAC
ACAGCCTATG GTGAGGATTT CCTGGTGCCA GTGATGGGCT ATGTCTGTCA
AATCTGTCAC AAGTTCTACG ACAGCAACTC AGAATTGCGG CTTTCTCACT
GCAAGTCCCT GGCCCACTTT GAGAACCTGC AGAAATACAA AGCCAAGAAC
CCAAGCCCTC CTCCTACCCG GCCTGTGAGC CGCAAGTGTG CCATCAACGC
CCGCAACGCC CTGACTGCAC TGTTCACCTC TAGCCACCAG CCCAGCCCCC
AGGACACAGT GAAAATGCCC AGCAAGGTGA AGCCTGGATC CCCCGGACTC
CCTCCTCCCC TTCGGCGCTC AACACGCCTC AAAACCTGAT AGAGGGAGCT
CTGGCCACTC AGCCTGACTA AGGCTCAGTC TGCTAATGCT TCCTAGGTAT
CTGTGTAGAA ATGTTCAAGT GGTTGGTGTT TTTACTCAAA ATCCAATAAA
GAGTCAGTAG TTTGGCAAAA AAAAAAAAAA AAAAAAA

Figure 15

TGGGGGCTGC GGGGCCGGCC CATCCGTGGG GGCGACTTGA GCGTTGAGGG
CGCGCGGGGA GGCGAGCCAC CATGTTCAGC CAGCAGCAGC AGCAGCTCCA
GCAACAGCAG CAGCAGCTCC AGCAGTTACA GCAGCAGCAG CTCCAGCAGC
AGCAATTGCA GCAGCAGCAG TTACTGCAGC TCCAGCAGCT GCTCCAGCAG
TCCCCACCAC AGGCCCCGTT GCCCATGGCT GTCAGCCGGG GGCTCCCCCC
GCAGCAGCCA CAGCAGCCGC TTCTGAATCT CCAGGGCACC AACTCAGCCT
CCCTCCTCAA CGGCTCCATG CTGCAGAGAG CTTTGCTTTT ACAGCAGTTG
CAAGGACTGG ACCAGTTTGC AATGCCACCA GCCACGTATG ACACTGCCGG
TCTCACCATG CCCACAGCAA CACTGGGTAA CCTCCGAGGC TATGGCATGG
CATCCCCAGG CCTCGCAGCC CCCAGCCTCA CACCCCCACA ACTGGCCACT
CCAAATTTGC AACAGTTCTT TCCCCAGGCC ACTCGCCAGT CCTTGCTGGG
ACCTCCTCCT GTTGGGGTCC CCATGAACCC TTCCCAGTTC AACCTTTCAG
GACGGAACCC CCAGAAACAG GCCCGGACCT CCTCCTCTAC CACCCCCAAT
CGAAAGGATT CTTCTTCTCA GACAATGCCT GTGGAAGACA AGTCAGACCC
CCCAGAGGGG TCTGAGGAAG CCGCAGAGCC CCGGATGGAC ACACCAGAAG
ACCAAGATTT ACCGCCCTGC CCAGAGGACA TCGCCAAGGA AAAACGCACT
CCAGCACCTG AGCCTGAGCC TTGTGAGGCG TCCGAGCTGC CAGCAAAGAG
ATTGAGGAGC TCAGAAGAGC CCACAGAGAA GGAACCTCCA GGGCAGTTAC
AGGTGAAGGC CCAGCCGCAG GCCCGGATGA CAGTACCGAA ACAGACACAG
ACACCAGACC TGCTGCCTGA GGCCCTGGAA GCCCAAGTGC TGCCACGATT
CCAGCCACGG GTCCTGCAGG TCCAGGCCCA GGTGCAGTCA CAGACTCAGC
CGCGGATACC ATCCACAGAC ACCCAGGTGC AGCCAAAGCT GCAGAAGCAG
GCGCAAACAC AGACCTCTCC AGAGCACTTA GTGCTGCAAC AGAAGCAGGT
GCAGCCACAG CTGCAGCAGG AGGCAGAGCC ACAGAAGCAGGTGCAGCCAC
AGGTACAGCC ACAGGCACAT TCACAGGGCC CAAGGCAGGT GCAGCTGCAG
CAGGAGGCAG AGCCGCTGAA GCAGGTGCAG CCACAGGTGC AGCCCCAGGC
ACATTCACAG CCCCCAAGGC AGGTGCAGCT GCAGCTGCAG AAGCAGGTCC
AGACACAGAC ATATCCACAG GTCCACACAC AGGCACAGCC AAGCGTCCAG
CCACAGGAGC ATCCTCCAGC GCAGGTGTCA GTACAGCCAC CAGAGCAGAC
CCATGAGCAG CCTCACACCC AGCCGCAGGT GTCGTTGCTG GCTCCAGAGC
AAACACCAGT TGTGGTTCAT GTCTGCGGGC TGGAGATGCC ACCTGATGCA
GTAGAAGCTG GTGGAGGCAT GGAAAAGACC TTGCCAGAGC CTGTGGGCAC
CCAAGTCAGC ATGGAAGAGA TTCAGAATGA GTCGGCCTGT GGCCTAGATG
TGGGAGAATG TGAAAACAGA GCGAGAGAGA TGCCAGGGGTATGGGGCGCC
GGGGGCTCCC TGAAGGTCAC CATTCTGCAG AGCAGTGACA GCCGGGCCTT
TAGCACTGTA CCCCTGACAC CTGTCCCCCG CCCCAGTGAC TCCGTCTCCT
CCACCCCTGC GGCTACCAGC ACTCCCTCTA AGCAGGCCCT CCAGTTCTTC
TGCTACATCT GCAAGGCCAG CTGCTCCAGC CAGCAGGAGT TCCAGGACCA
CATGTCGGAG CCTCAGCACC AGCAGCGGCT AGGGGAGATC CAGCACATGA
GCCAAGCCTG CCTCCTGTCC CTGCTGCCCG TGCCCCGGGA CGTCCTGGAG
ACAGAGGATG AGGAGCCTCC ACCAAGGCGC TGGTGCAACA CCTGCCAGCT
CTACTACATG GGGGACCTGA TCCAACACCG CAGGACACAG GACCACAAGA
TTGCCAAACA ATCCTTGCGA CCCTTCTGCA CCGTTTGCAA CCGCTACTTC
AAAACCCCTC GCAAGTTTGT GGAGCACGTG AAGTCCCAGG GGCATAAGGA
CAAAGCCAAG GAGCTGAAGT CGCTTGAGAA AGAAATTGCT GGCCAAGATG
AGGACCACTT CATTACAGTG GACGCTGTGG GTTGCTTCGA GGGTGATGAA
GAAGAGGAAG AGGATGATGA GGATGAAGAAGAGATCGAGGTTGAGGAGGA
ACTCTGCAAG CAGGTGAGGT CCAGAGATAT ATCCAGAGAG GAGTGGAAGG
GCTCGGAGAC CTACAGCCCC AATACTGCAT ATGGTGTGGA CTTCCTGGTG
CCCGTGATGG GCTATATCTG CCGCATCTGC CACAAGTTCT ATCACAGCAA
CTCAGGGGCA CAGCTCTCCC ACTGCAAGTC CCTGGGCCAC TTTGAGAACC
TGCAGAAATA CAAGGCGGCC AAGAACCCCA GCCCCACCAC CCGACCTGTG
AGCCGCCGGT GCGCAATCAA CGCCCGGAAC GCTTTGACAG CCCTGTTCAC
CTCCAGCGGC CGCCCACCCT CCCAGCCCAA CACCCAGGAC AAAACACCCA
GCAAGGTGAC GGCTCGACCC TCCCAGCCCC CACTACCTCG GCGCTCAACC
CGCCTCAAAA CCTGATAGAG GGACCTCCCT GTCCCTGGCC TGCCTGGGTC
CAGATCTGCT AATGCTTTTT AGGAGTCTGC CTGGAAACTT TGACATGGTT
CATGTTTTTA CTCAAAATCC AATAAAACAA GGTAGTTTGG CTGTGCAAAA
AAAAAAAAAA AAAAAAAAAA AA

Figure 16

MFNPQLQQQQ QLQQQQQQLQ QQLQQQQLQQ QQQQILQLQQ LLQQSPPQAS
LSIPVSRGLP QQSSPQQLLS LQGLHSTSLL NGPMLQRALL LQQLQGLDQF
AMPPATYDGA SLTMPTATLG NLRAFNVTAP SLAAPSLTPP QMVTPNLQQF
FPQATRQSLL GPPPVGVPIN PSQLNHSGRN TQKQARTPSS TTPNRKDSSS
QTVPLEDRED PTEGSEEATE LQMDTCEDQD SLVGPDSMLS EPQVPEPEPF
ETLEPPAKRC RSSEESTEKG PTGQPQARVQ PQTQMTAPKQ TQTPDRLPEP
PEVQMLPRIQ PQALQIQTQP KLLRQAQTQT SPEHLAPQQD QVEPQVPSQP
PWQLQPRETD PPNQAQAQTQ PQPLWQAQSQ KQAQTQAHPQ VPTQAQSQEQ
TSEKTQDQPQ TWPQGSVPPP EQASGPACAT EPQLSSHAAE AGSDPDKALP
EPVSAQSSED RSREASAGGL DLGECEKRAG EMLGMWGAGS SLKVTILQSS
NSRAFNTTPL TSGPRPGDST SATPAIASTP SKQSLQFFCY ICKASSSSQQ
EFQDHMSEAQ HQQRLGEIQH SSQTCLLSLL PMPRDILEKE AEDPPPKRWC
NTCQVYYVGD LIQHRRTQEH KVAKQSLRPF CTICNRYFKT PRKFVEHVKS
QGHKDKAQEL KTLEKETGSP DEDHFTVDA VGCFESGQEE DEDDDEEEEE
EGEIEAEEEF CKQVKPRETS SEQGKGSETY NPNTAYGEDF LVPVMGYVCQ
ICHKFYDSNS ELRLSHCKSL AHFENLQKYK AKNPSPPPTR PVSRKCAINA
RNALTALFTS SHQPSPQDTV KMPSKVKPGS PGLPPPLRRS TRLKT

Figure 17

MF SQQQQLQQQ QQQLQQLQQQ QLQQQQLQQQ QLLQLQQLLQQSPPQ APLPM AVSRGLPPQQ PQQPLLNLQG TNSASLLNGS M
LQRALLLQQLQ GL DQFAMP PATYDTAGLT MPTATLGNLR GYGMASPGLA APSLTPPQLATPN LQQFFPQ ATRQSLLGPP PVGVPM
NPSQ FNLSGRNPQK QARTSSSTTPNRK DSSSQTM PVEDKSDPPE GSEEAAEPRM DTPEDQDLPP CPEDIAKEKRTPA PEPEPCE ASEL
PAKRLR SSEEPTEKEP PGQLQVKAQP QARMTVPKQTQTP DLLPEAL EAQVLPRFQP RVLQVQAQVQ SQTQPRJPST DTQVQPKLQK
QAQTQTSPEH LVLQQKQVQP QLQQEAEPQK QVQPQVQPQAHSQGPRQ VQLQQEAEPLKQV QPQVQPQAHS QPPRQVQLQL QKQV
QTQTYP QVHT QAQPSVQPQEHPPAQV SVQPPEQTHE QPHTQPQVSL LAPEQTPVVV HVC GLEMPPDAVEAGGGMEK TLPEPVGTQ
V SMEEIQNESA CGLDVGECEN RAREMPGVWGAGGSLKVTIL QSSDSRAFST VPLTPVPRPS DSVSSTPAAT STPSKQALQFFCYICKA
SCS SQQEFQDHMS EPQHQQRLGE IQHMSQACLL SLLPVPRDVLETEDEEPPPR RWCNTCQLYY MGDLIQHRRT QDHKIAKQSL RPF
CTVCNR YFKTPRKFVEH VKSQGHKDKA KELKSLEKEI AGQDEDHFIT VDAVGCFEGDEEEEEDDEDE EEIEVEEELC KQVRSRDISR E
EWKGSETYS PNTAYGVDFLVPVMGYICRJ CHKFYHSNSG AQLSHCKSLG HFENLQKYKA AKNPSPTTRPVSRRCAINAR NALTALFTS
S GRPPSQPNTQ DKTPSKVTAR PSQPPLPRRSTRLKT

Figure 18

From exons 2/3 (at least two versions)
MFSQQQQQL QQQQQQLQQL QQQQLQQQQL QQQQLLQLQQ LLQQSPPQA

QQLQQL QQQQLQQQQL QQQQLLQLQQ LLQQSPP

Exon 4
GLDQFAMPPATYDTAGLTMPTATL

From exon 6
DSSSQ

From exon 8 (at least three versions)
PQVQPQAHSQPPRQVQLQLQKQVQTQTY

PQVQPQAHSQGPRQVQLQQEAEPLKQVQPQVQPQAHSQPPRQVQLQLQKQVQTQTY

QVQSQTQPRIPSTDTQVQPKLQKQAQTQ
TSPEHLVLQQKQVQPQLQQEAEPQKQVQ
PQVQPQAHSQGPRQVQLQQEAEPLKQVQ
PQVQPQAHSQPPRQVQLQLQKQVQTQ TY

From exon 14
VEEELCKQ

The following sequence is inserted in one carcinoma derived library (MGC102) between the third and fourth zinc finger, altering the spacing between them.
PPTPRRDVFAHVPVQGWSTARLVTDM

Figure 19

From exons 2/3 (at least two versions)
TGGGGGCTGC GGGGCCGGCC CATCCGTGGG GGCGACTTGA GCGTTGAGGGCGCGCGGGGA GGCGAGCCAC
CATGTTCAGC CAGCAGCAGC AGCAGCTCCAGCAACAGCAG CAGCAGCTCC AGCAGTTACA GCAGCAGCAG
CTCCAGCAGCAGCAATTGCA GCAGCAGCAG TTACTGCAGC TCCAGCAGCT GCTCCAGCAGTCCCCACCAC
AGGCC

CAGCAG CTCCAGCAGT TACAGCAGCA GCAGCTCCAG CAGCAGCAATTGCAGCAGCA GCAGTTACTG CAGC
TCCAGC AGCTGCTCCA GCAGTCCCCACCACA

Exon 4
GGACTGGAC CAGTTTGCAA TGCCACCAGC CACGTATGAC ACTGCCGGTCTCACCATGCC CACAGCAACA CTG
From exon 6
AGGATTCTTCTTCTC
From exon 8 (at least three versions)
CCACAGGTGC AGCCCCAGGC ACATTCACAG CCCCCAAGGC AGGTGCAGCTGCAGCTGCAG AAGCAGGTCC
AGACACAGAC ATATCC

CCACAGGTAC AGCCACAGGC ACATTCACAG GGCCCAAGGC AGGTGCAGCTGCAGCAGGAG GCAGAGCCGC
TGAAGCAGGT GCAGCCACAG GTGCAGCCCCAGGCACATTC ACAGCCCCCA AGGCAGGTGC AGCTGCAGCT
GCAGAAGCAGGTCCAGACAC AGACATAT

CAGGTGCAGT CACAGACTCA GCCGCGGATA CCATCCACAG ACACCCAGGTGCAGCCAAAG CTGCAGAAGC
AGGCGCAAAC ACAGACCTCT CCAGAGCACTTAGTGCTGCA ACAGAAGCAG GTGCAGCCAC AGCTGCAGCA
GGAGGCAGAGCCACAGAAGC AGGTGCAGCC ACAGGTACAG CCACAGGCAC ATTCACAGGGCCCAAGGCAG
GTGCAGCTGC AGCAGGAGGC AGAGCCGCTG AAGCAGGTGCAGCCACAGGT GCAGCCCCAG GCACATTCAC
AGCCCCCAAG GCAGGTGCAGCTGCAGCTGC AGAAGCAGGT CCAGACACAG ACATAT
From exon 14
GTTGAGGAGGAACTCTGCAAGCAG
The following sequence is inserted in to Ciz1 transcripts in one carcinoma library (from Ciz1 intron 12)
GCCACCCACACCACGAAGAGATGTGTTTGCCCACGTTCCAGTGCAGGGGTGGAGCACAGCCCGGCTTGTTACAGATAT

Figure 20A

Part of exons 2/3 absent

MF SQQQQQLQQQ QQ APLPM AVSRGLPPQQ PQQPLLNLQG TNSASLLNGS MLQRALLLQQLQ GL DQFAMP PATYDTAGLT MPTATLGNLR GYGMASPGLA APSLTPPQLATPN LQQFFPQ ATRQSLLGPP PVGVPMNPSQ FNLSGRNPQK QARTSSSTTPNRK DSSSQTM PVEDKSDPPE GSEEAAEPRM DTPEDQDLPP CPEDIAKEKRTPA PEPEPCE ASELPAKRLR SSEEPTEKEP PGQL QVKAQP QARMTVPKQTQTP DLLPEAL EAQVLPRFQP RVLQVQAQVQ SQTQPRIPST DTQVQPKLQKQAQTQTSPEH LVLQQKQVQP QLQQEAEPQK QVQPQVQPQAHSQGPRQ VQLQQEA EPLKQV QPQVQPQAHS QPPRQVQLQL QKQVQTQTYP QVHT QAQPSVQPQEHPPAQV SVQPPEQTHE QPHTQPQVSL LAPEQTPVVV HVC GLEMPPDAVEAGGGMEK TLPEPVGTQV SME EIQNESA CGLDVGECEN RAREMPGVWGAGGSLKVTIL QSSDSRAFST VPLTPVPRPS DSVSSTPAAT STPSKQALQFFCYICKASCS SQQEFQDHMS EPQHQQRLGE IQHMSQALL SLLPVPRD VLETEDEEPPPR RWCNTCQLYY MGDLIQHRRT QDHKIAKQSL RPFCTVCNRYFKTPRKFVEH VKSQGHKDKA KELKSLEKEI AGQDEDHFIT VDAVGCFEGDEEEEEDDEDE EEIEVEEELC K QVRSRDISR EEWKGSETYS PNTAYGVDFLVPVMGYICRI CHKFYHSNSG AQLSHCKSLG HFENLQKYKA AKNPSPTTRPVSRRCAINAR NALTALFTSS GRPPSQPNTQ DKTPSKVTAR PSQPP LPRRSTRLKT

Exon 4 absent

MF SQQQQQLQQQ QQQLQQLQQQ QLQQQQLQQQ QLLQLQQLLQQSPPQ APLPM AVSRGLPPQQ PQQPLLNLQG TNSASLLNGS MLQRALLLQQLQGNLR GYGMASPGLA APSLTPPQLA TPN LQQFFPQ ATRQSLLGPP PVGVPMNPSQ FNLSGRNPQK QARTSSSTTPNRK DSSSQTM PVEDKSDPPE GSEEAAEPRM DTPEDQDLPP CPEDIAKEKRTPA PEPEPCE ASELPAKRLR SSE EPTEKEP PGQLQVKAQP QARMTVPKQTQTP DLLPEAL EAQVLPRFQP RVLQVQAQVQ SQTQPRIPST DTQVQPKLQKQAQTQTSPEH LVLQQKQVQP QLQQEAEPQK QVQPQVQPQAHSQ GPRQ VQLQQEAEPLKQV QPQVQPQAHS QPPRQVQLQL QKQVQTQTYP QVHT QAQPSVQPQEHPPAQV SVQPPEQTHE QPHTQPQVSL LAPEQTPVVV HVC GLEMPPDAVEAGGGMEK T LPEPVGTQV SMEEIQNESA CGLDVGECEN RAREMPGVWGAGGSLKVTIL QSSDSRAFST VPLTPVPRPS DSVSSTPAAT STPSKQALQFFCYICKASCS SQQEFQDHMS EPQHQQRLGE IQHM SQACLL SLLPVPRDVLETEDEEPPPR RWCNTCQLYY MGDLIQHRRT QDHKIAKQSL RPFCTVCNRYFKTPRKFVEH VKSQGHKDKA KELKSLEKEI AGQDEDHFIT VDAVGCFEGDEEEEED DEDE EEIEVEEELC KQVRSRDISR EEWKGSETYS PNTAYGVDFLVPVMGYICRI CHKFYHSNSG AQLSHCKSLG HFENLQKYKA AKNPSPTTRPVSRRCAINAR NALTALFTSS GRPPSQPNTQ DKTPSKVTAR PSQPPLPRRSTRLKT

Part of exon 6 absent

MF SQQQQQLQQQ QQQLQQLQQQ QLQQQQLQQQ QLLQLQQLLQQSPPQ APLPM AVSRGLPPQQ PQQPLLNLQG TNSASLLNGS MLQRALLLQQLQ GL DQFAMP PATYDTAGLT MPTAT LGNLR GYGMASPGLA APSLTPPQLATPN LQQFFPQ ATRQSLLGPP PVGVPMNPSQ FNLSGRNPQK QARTSSSTTPNRKTM PVEDKSDPPE GSEEAAEPRM DTPEDQDLPP CPEDIAKEKRTPA PEPEPCE ASELPAKRLR SSEEPTEKEP PGQLQVKAQP QARMTVPKQTQTP DLLPEAL EAQVLPRFQP RVLQVQAQVQ SQTQPRIPST DTQVQPKLQKQAQTQTSPEH LVLQQKQVQP QLQQ EAEPQK QVQPQVQPQAHSQGPRQ VQLQQEAEPLKQV QPQVQPQAHS QPPRQVQLQL QKQVQTQTYP QVHT QAQPSVQPQEHPPAQV SVQPPEQTHE QPHTQPQVSL LAPEQTPVVV HVC GLEMPPDAVEAGGGMEK TLPEPVGTQV SMEEIQNESA CGLDVGECEN RAREMPGVWGAGGSLKVTIL QSSDSRAFST VPLTPVPRPS DSVSSTPAAT STPSKQALQFFCYICKASCS SQQEF QDHMS EPQHQQRLGE IQHMSQACLL SLLPVPRDVLETEDEEPPPR RWCNTCQLYY MGDLIQHRRT QDHKIAKQSL RPFCTVCNRYFKTPRKFVEH VKSQGHKDKA KELKSLEKEI AGQDE DHFIT VDAVGCFEGDEEEEEDDEDE EEIEVEEELC KQVRSRDISR EEWKGSETYS PNTAYGVDFLVPVMGYICRI CHKFYHSNSG AQLSHCKSLG HFENLQKYKA AKNPSPTTRPVSRRCAIN AR NALTALFTSS GRPPSQPNTQ DKTPSKVTAR PSQPPLPRRSTRLKT

Exon 8 minus variant 1

MF SQQQQQLQQQ QQQLQQLQQQ QLQQQQLQQQ QLLQLQQLLQQSPPQ APLPM AVSRGLPPQQ PQQPLLNLQG TNSASLLNGS MLQRALLLQQLQ GL DQFAMP PATYDTAGLT MPT ATLGNLR GYGMASPGLA APSLTPPQLATPN LQQFFPQ ATRQSLLGPP PVGVPMNPSQ FNLSGRNPQK QARTSSSTTPNRK DSSSQTM PVEDKSDPPE GSEEAAEPRM DTPEDQDLPP CPE DIAKEKRTPA PEPEPCE ASELPAKRLR SSEEPTEKEP PGQLQVKAQP QARMTVPKQTQTP DLLPEAL EAQVLPRFQP RVLQVQAQVQ SQTQPRIPST DTQVQPKLQKQAQTQTSPEH LVL QQKQVQP QLQQEAEPQK QVQPQVQPQAHSQGPRQ VQLQQEAEPLKQV Q QVHT QAQPSVQPQEHPPAQV SVQPPEQTHE QPHTQPQVSL LAPEQTPVVV HVC GLEMPPDAVEAGGG MEK TLPEPVGTQV SMEEIQNESA CGLDVGECEN RAREMPGVWGAGGSLKVTIL QSSDSRAFST VPLTPVPRPS DSVSSTPAAT STPSKQALQFFCYICKASCS SQQEFQDHMS EPQHQQR LGE IQHMSQACLL SLLPVPRDVLETEDEEPPPR RWCNTCQLYY MGDLIQHRRT QDHKIAKQSL RPFCTVCNRYFKTPRKFVEH VKSQGHKDKA KELKSLEKEI AGQDEDHFIT VDAVGC FEGDEEEEEDDEDE EEIEVEEELC KQVRSRDISR EEWKGSETYS PNTAYGVDFLVPVMGYICRI CHKFYHSNSG AQLSHCKSLG HFENLQKYKA AKNPSPTTRPVSRRCAINAR NALTAL FTSS GRPPSQPNTQ DKTPSKVTAR PSQPPLPRRSTRLKT

Figure 20B

Exon 8 minus variant 2

MF SQQQQQLQQQ QQQLQQLQQQ QLQQQQLQQQ QLLQLQQLLQQSPPQ APLPM AVSRGLPPQQ PQQPLLNLQG TNSASLLNGS MLQRALLLQQLQ GL DQFAMP PATYDTAGLT MPTATLGNLR GYGMASPGLA APSLTPPQLATPN LQQFFPQ ATRQSLLGPP PVGVPMNPSQ FNLSGRNPQK QARTSSSTTPNRK DSSSQTM PVEDKSDPPE GSEEAAEPRM DTPED QDLPP CPEDIAKEKRTPA PEPEPCE ASELPAKRLR SSEEPTEKEP PGQLQVKAQP QARMTVPKQTQTP DLLPEAL EAQVLPRFQP RVLQVQAQVQ SQTQPRIPST DTQVQPKLQK QAQTQTSPEH LVLQQKQVQP QLQQEAEPQK QVQ P QVHT QAQPSVQPQEHPPAQV SVQPPEQTHE QPHTQPQVSL LAPEQTPVVV HVC GLEMPPDAVEAGGGMEK TLPEPVGTQ V SMEEIQNESA CGLDVGECEN RAREMPGVWGAGGSLKVTIL QSSDSRAFST VPLTPVPRPS DSVSSTPAAT STPSKQALQFFCYICKASCS SQQEFQDHMS EPQHQQRLGE IQHMSQ ACLL SLLPVPRDVLETEDEEPPPR RWCNTCQLYY MGDLIQHRRT QDHKIAKQSL RPFCTVCNRYFKTPRKFVEH VKSQGHKDKA KELKSLEKEI AGQDEDHFIT VDAVGCFEGDEE EEEDDEDE EEIEVEEELC KQVRSRDISR EEWKGSETYS PNTAYGVDFLVPVMGYICRI CHKFYHSNSG AQLSHCKSLG HFENLQKYKA AKNPSPTTRPVSRRCAINAR NALTALFTSS GRPPSQPNTQ DKTPSKVTAR PSQPPLPRRSTRLKT

Exon 8 minus variant 3

MF SQQQQQLQQQ QQQLQQLQQQ QLQQQQLQQQ QLLQLQQLLQQSPPQ APLPM AVSRGLPPQQ PQQPLLNLQG TNSASLLNGS MLQRALLLQQLQ GL DQFAMP PATYDTAGLT MPTATLGNLR GYGMASPGLA APSLTPPQLATPN LQQFFPQ ATRQSLLGPP PVGVPMNPSQ FNLSGRNPQK QARTSSSTTPNRK DSSSQTM PVEDKSDPPE GSEEAAEPRM DTPED QDLPP CPEDIAKEKRTPA PEPEPCE ASELPAKRLR SSEEPTEKEP PGQLQVKAQP QARMTVPKQTQTP DLLPEAL EAQVLPRFQP RVLQVQA P QVHT QAQPSVQPQEHPPAQV SV QPPEQTHE QPHTQPQVSL LAPEQTPVVV HVC GLEMPPDAVEAGGGMEK TLPEPVGTQV SMEEIQNESA CGLDVGECEN RAREMPGVWGAGGSLKVTIL QSSDSRAFST VPLTPVP RPS DSVSSTPAAT STPSKQALQFFCYICKASCS SQQEFQDHMS EPQHQQRLGE IQHMSQACLL SLLPVPRDVLETEDEEPPPR RWCNTCQLYY MGDLIQHRRT QDHKIAKQSL RPFC TVCNRYFKTPRKFVEH VKSQGHKDKA KELKSLEKEI AGQDEDHFIT VDAVGCFEGDEEEEEDDEDE EEIEVEEELC KQVRSRDISR EEWKGSETYS PNTAYGVDFLVPVMGYICRI CHKFYHSNSG AQLSHCKSLG HFENLQKYKA AKNPSPTTRPVSRRCAINAR NALTALFTSS GRPPSQPNTQ DKTPSKVTAR PSQPPLPRRSTRLKT

Exon 14 minus variant

MF SQQQQQLQQQ QQQLQQLQQQ QLQQQQLQQQ QLLQLQQLLQQSPPQ APLPM AVSRGLPPQQ PQQPLLNLQG TNSASLLNGS MLQRALLLQQLQ GL DQFAMP PATYDTAGLT MPTATLGNLR GYGMASPGLA APSLTPPQLATPN LQQFFPQ ATRQSLLGPP PVGVPMNPSQ FNLSGRNPQK QARTSSSTTPNRK DSSSQTM PVEDKSDPPE GSEEAAEPRM DTPEDQ DLPP CPEDIAKEKRTPA PEPEPCE ASELPAKRLR SSEEPTEKEP PGQLQVKAQP QARMTVPKQTQTP DLLPEAL EAQVLPRFQP RVLQVQAQVQ SQTQPRIPST DTQVQPKLQK QAQTQTSPEH LVLQQKQVQP QLQQEAEPQK QVQPQVQPQAHSQGPRQ VQLQQEAEPLKQV QPQVQPQAHS QPPRQVQLQL QKQVQTQTYP QVHT QAQPSVQPQEHPPAQV SVQ PPEQTHE QPHTQPQVSL LAPEQTPVVV HVC GLEMPPDAVEAGGGMEK TLPEPVGTQV SMEEIQNESA CGLDVGECEN RAREMPGVWGAGGSLKVTIL QSSDSRAFST VPLTPVPRP S DSVSSTPAAT STPSKQALQFFCYICKASCS SQQEFQDHMS EPQHQQRLGE IQHMSQACLL SLLPVPRDVLETEDEEPPPR RWCNTCQLYY MGDLIQHRRT QDHKIAKQSL RPFCTV CNRYFKTPRKFVEH VKSQGHKDKA KELKSLEKEI AGQDEDHFIT VDAVGCFEGDEEEEEDDEDE EEIE VRSRDISR EEWKGSETYS PNTAYGVDFLVPVMGYICRI CHKFYHSNSG AQLSHCKSLG HFENLQKYKA AKNPSPTTRPVSRRCAINAR NALTALFTSS GRPPSQPNTQ DKTPSKVTAR PSQPPLPRRSTRLKT

Also to be protected are transcripts which lack combinations of the variable exons. For example:-

Exon 4 and partial exon 6 minus variant

MF SQQQQQLQQQ QQQLQQLQQQ QLQQQQLQQQ QLLQLQQLLQQSPPQ APLPM AVSRGLPPQQ PQQPLLNLQG TNSASLLNGS MLQRALLLQQLQGNLR GYGMASPGLA APS LTPPQLATPN LQQFFPQ ATRQSLLGPP PVGVPMNPSQ FNLSGRNPQK QARTSSSTTPNRK DSSSQTM PVEDKSDPPE GSEEAAEPRM DTPEDQDLPP CPEDIAKEKRTPA PEPEPCE ASELPAKRLR SSEEPTEKEP PGQLQVKAQP QARMTVPKQTQTP DLLPEAL EAQVLPRFQP RVLQVQAQVQ SQTQPRIPST DTQVQPKLQKQAQTQTSPEH LVLQQKQVQP QLQQ EAEPQK QVQPQVQPQAHSQGPRQ VQLQQEAEPLKQV QPQVQPQAHS QPPRQVQLQL QKQVQTQTYP QVHT QAQPSVQPQEHPPAQV SVQPPEQTHE QPHTQPQVSL LAPEQT PVVV HVC GLEMPPDAVEAGGGMEK TLPEPVGTQV SMEEIQNESA CGLDVGECEN RAREMPGVWGAGGSLKVTIL QSSDSRAFST VPLTPVPRPS DSVSSTPAAT STPSKQALQF FCYICKASCS SQQEFQDHMS EPQHQQRLGE IQHMSQACLL SLLPVPRDVLETEDEEPPPR RWCNTCQLYY MGDLIQHRRT QDHKIAKQSL RPFCTVCNRYFKTPRKFVEH VKSQG HKDKA KELKSLEKEI AGQDEDHFIT VDAVGCFEGDEEEEEDDEDE EEIEVEEELC KQVRSRDISR EEWKGSETYS PNTAYGVDFLVPVMGYICRI CHKFYHSNSG AQLSHCKSLG HFENLQKYKA AKNPSPTTRPVSRRCAINAR NALTALFTSS GRPPSQPNTQ DKTPSKVTAR PSQPPLPRRSTRLKT

Figure 21A

Part of exons 2/3 absent

TGGGGGCTGC GGGGCCGGCC CATCCGTGGG GGCGACTTGA GCGTTGAGGG
CGCGCGGGGA GGCGAGCCAC CATGTTCAGC CAGCAGCAGC AGCAGCTCCA
GCAACAGCAG GGCCCCGTT GCCCATGGCT GTCAGCCGGG GGCTCCCCCC
GCAGCAGCCA CAGCAGCCGC TTCTGAATCT CCAGGGCACC AACTCAGCCT
CCCTCCTCAA CGGCTCCATG CTGCAGAGAG CTTTGCTTTT ACAGCAGTTG
CAAGGACTGG ACCAGTTTGC AATGCCACCA GCCACGTATG ACACTGCCGG
TCTCACCATG CCCACAGCAA CACTGGGTAA CCTCCGAGGC TATGGCATGG
CATCCCCAGG CCTCGCAGCC CCCAGCCTCA CACCCCCACA ACTGGCCACT
CCAAATTTGC AACAGTTCTT TCCCCAGGCC ACTCGCCAGT CCTTGCTGGG
ACCTCCTCCT GTTGGGGTCC CCATGAACCC TTCCCAGTTC AACCTTTCAG
GACGGAACCC CCAGAAACAG GCCCGGACCT CCTCCTCTAC CACCCCCAAT
CGAAAGGATT CTTCTTCTCA GACAATGCCT GTGGAAGACA AGTCAGACCC
CCCAGAGGGG TCTGAGGAAG CCGCAGAGCC CCGGATGGAC ACACCAGAAG
ACCAAGATTT ACCGCCCTGC CCAGAGGACA TCGCCAAGGA AAAACGCACT
CCAGCACCTG AGCCTGAGCC TTGTGAGGCG TCCGAGCTGC CAGCAAAGAG
ATTGAGGAGC TCAGAAGAGC CCACAGAGAA GGAACCTCCA GGGCAGTTAC
AGGTGAAGGC CCAGCCGCAG GCCCGGATGA CAGTACCGAA ACAGACACAG
ACACCAGACC TGCTGCCTGA GGCCCTGGAA GCCCAAGTGC TGCCACGATT
CCAGCCACGG GTCCTGCAGG TCCAGGCCCA GGTGCAGTCA CAGACTCAGC
CGCGGATACC ATCCACAGAC ACCCAGGTGC AGCCAAAGCT GCAGAAGCAG
GCGCAAACAC AGACCTCTCC AGAGCACTTA GTGCTGCAAC AGAAGCAGGT
GCAGCCACAG CTGCAGCAGG AGGCAGAGCC ACAGAAGCAG GTGCAGCCAC
AGGTACAGCC ACAGGCACAT TCACAGGGCC CAAGGCAGGT GCAGCTGCAG
CAGGAGGCAG AGCCGCTGAA GCAGGTGCAG CCACAGGTGC AGCCCCAGGC
ACATTCACAG CCCCCAAGGC AGGTGCAGCT GCAGCTGCAG AAGCAGGTCC
AGACACAGAC ATATCCACAG GTCCACACAC AGGCACAGCC AAGCGTCCAG
CCACAGGAGC ATCCTCCAGC GCAGGTGTCA GTACAGCCAC CAGAGCAGAC
CCATGAGCAG CCTCACACCC AGCCGCAGGT GTCGTTGCTG GCTCCAGAGC
AAACACCAGT TGTGGTTCAT GTCTGCGGGC TGGAGATGCC ACCTGATGCA
GTAGAAGCTG GTGGAGGCAT GGAAAAGACC TTGCCAGAGC CTGTGGGCAC
CCAAGTCAGC ATGGAAGAGA TTCAGAATGA GTCGGCCTGT GGCCTAGATG
TGGGAGAATG TGAAAACAGA GCGAGAGAGA TGCCAGGGGT ATGGGGCGCC
GGGGGCTCCC TGAAGGTCAC CATTCTGCAG AGCAGTGACA GCCGGGCCTT
TAGCACTGTA CCCCTGACAC CTGTCCCCCG CCCCAGTGAC TCCGTCTCCT
CCACCCCTGC GGCTACCAGC ACTCCCTCTA AGCAGGCCCT CCAGTTCTTC
TGCTACATCT GCAAGGCCAG CTGCTCCAGC CAGCAGGAGT TCCAGGACCA
CATGTCGGAG CCTCAGCACC AGCAGCGGCT AGGGGAGATC CAGCACATGA
GCCAAGCCTG CCTCCTGTCC CTGCTGCCCG TGCCCCGGGA CGTCCTGGAG
ACAGAGGATG AGGAGCCTCC ACCAAGGCGC TGGTGCAACA CCTGCCAGCT
CTACTACATG GGGGACCTGA TCCAACACCG CAGGACACAG GACCACAAGA
TTGCCAAACA ATCCTTGCGA CCCTTCTGCA CCGTTTGCAA CCGCTACTTC
AAAACCCCTC GCAAGTTTGT GGAGCACGTG AAGTCCCAGG GGCATAAGGA
CAAAGCCAAG GAGCTGAAGT CGCTTGAGAA AGAAATTGCT GGCCAAGATG
AGGACCACTT CATTACAGTG GACGCTGTGG GTTGCTTCGA GGGTGATGAA
GAAGAGGAAG AGGATGATGA GGATGAAGAA GAGATCGAGG TTGAGGAGGA
ACTCTGCAAG CAGGTGAGGT CCAGAGATAT ATCCAGAGAG GAGTGGAAGG
GCTCGGAGAC CTACAGCCCC AATACTGCAT ATGGTGTGGA CTTCCTGGTG
CCCGTGATGG GCTATATCTG CCGCATCTGC CACAAGTTCT ATCACAGCAA
CTCAGGGGCA CAGCTCTCCC ACTGCAAGTC CCTGGGCCAC TTTGAGAACC
TGCAGAAATA CAAGGCGGCC AAGAACCCCA GCCCCACCAC CCGACCTGTG
AGCCGCCGGT GCGCAATCAA CGCCCGGAAC GCTTTGACAG CCCTGTTCAC
CTCCAGCGGC CGCCCACCCT CCCAGCCCAA CACCCAGGAC AAAACACCCA
GCAAGGTGAC GGCTCGACCC TCCCAGCCCC CACTACCTCG GCGCTCAACC
CGCCTCAAAA CCTGATAGAG GGACCTCCCT GTCCCTGGCC TGCCTGGGTC
CAGATCTGCT AATGCTTTTT AGGAGTCTGC CTGGAAACTT TGACATGGTT
CATGTTTTTA CTCAAAATCC AATAAAACAA GGTAGTTTGG CTGTGCAAAA
AAAAAAAAAA AAAAAAAAAA AA

Figure 21B

Exon 4 absent

TGGGGGCTGC GGGGCCGGCC CATCCGTGGG GGCGACTTGA GCGTTGAGGG
CGCGCGGGGA GGCGAGCCAC CATGTTCAGC CAGCAGCAGC AGCAGCTCCA
GCAACAGCAG CAGCAGCTCC AGCAGTTACA GCAGCAGCAG CTCCAGCAGC
AGCAATTGCA GCAGCAGCAG TTACTGCAGC TCCAGCAGCT GCTCCAGCAG
TCCCCACCAC AGGCCCCGTT GCCCATGGCT GTCAGCCGGG GGCTCCCCCC
GCAGCAGCCA CAGCAGCCGC TTCTGAATCT CCAGGGCACC AACTCAGCCT
CCCTCCTCAA CGGCTCCATG CTGCAGAGAG CTTTGCTTTT ACAGCAGTTG
CAAGGTAACC TCCGAGGCTA TGGCATGGCA TCCCCAGGCC TCGCAGCCCC
CAGCCTCACA CCCCCACAAC TGGCCACTCC AAATTTGCAA CAGTTCTTTC
CCCAGGCCAC TCGCCAGTCC TTGCTGGGAC CTCCTCCTGT TGGGGTCCCC
ATGAACCCTT CCCAGTTCAA CCTTTCAGGA CGGAACCCCC AGAAACAGGC
CCGGACCTCC TCCTCTACCA CCCCCAATCG AAAGGATTCT TCTTCTCAGA
CAATGCCTGT GGAAGACAAG TCAGACCCCC CAGAGGGGTC TGAGGAAGCC
GCAGAGCCCC GGATGGACAC ACCAGAAGAC CAAGATTTAC CGCCCTGCCC
AGAGGACATC GCCAAGGAAA AACGCACTCC AGCACCTGAG CCTGAGCCTT
GTGAGGCGTC CGAGCTGCCA GCAAAGAGAT TGAGGAGCTC AGAAGAGCCC
ACAGAGAAGG AACCTCCAGG GCAGTTACAG GTGAAGGCCC AGCCGCAGGC
CCGGATGACA GTACCGAAAC AGACACAGAC ACCAGACCTG CTGCCTGAGG
CCCTGGAAGC CCAAGTGCTG CCACGATTCC AGCCACGGGT CCTGCAGGTC
CAGGCCCAGG TGCAGTCACA GACTCAGCCG CGGATACCAT CCACAGACAC
CCAGGTGCAG CCAAAGCTGC AGAAGCAGGC GCAAACACAG ACCTCTCCAG
AGCACTTAGT GCTGCAACAG AAGCAGGTGC AGCCACAGCT GCAGCAGGAG
GCAGAGCCAC AGAAGCAGGT GCAGCCACAG GTACAGCCAC AGGCACATTC
ACAGGGCCCA AGGCAGGTGC AGCTGCAGCA GGAGGCAGAG CCGCTGAAGC
AGGTGCAGCC ACAGGTGCAG CCCCAGGCAC ATTCACAGCC CCCAAGGCAG
GTGCAGCTGC AGCTGCAGAA GCAGGTCCAG ACACAGACAT ATCCACAGGT
CCACACACAG GCACAGCCAA GCGTCCAGCC ACAGGAGCAT CCTCCAGCGC
AGGTGTCAGT ACAGCCACCA GAGCAGACCC ATGAGCAGCC TCACACCCAG
CCGCAGGTGT CGTTGCTGGC TCCAGAGCAA ACACCAGTTG TGGTTCATGT
CTGCGGGCTG GAGATGCCAC CTGATGCAGT AGAAGCTGGT GGAGGCATGG
AAAAGACCTT GCCAGAGCCT GTGGGCACCC AAGTCAGCAT GGAAGAGATT
CAGAATGAGT CGGCCTGTGG CCTAGATGTG GGAGAATGTG AAAACAGAGC
GAGAGAGATG CCAGGGGTAT GGGGCGCCGG GGGCTCCCTG AAGGTCACCA
TTCTGCAGAG CAGTGACAGC CGGGCCTTTA GCACTGTACC CCTGACACCT
GTCCCCCGCC CCAGTGACTC CGTCTCCTCC ACCCCTGCGG CTACCAGCAC
TCCCTCTAAG CAGGCCCTCC AGTTCTTCTG CTACATCTGC AAGGCCAGCT
GCTCCAGCCA GCAGGAGTTC CAGGACCACA TGTCGGAGCC TCAGCACCAG
CAGCGGCTAG GGGAGATCCA GCACATGAGC CAAGCCTGCC TCCTGTCCCT
GCTGCCCGTG CCCCGGGACG TCCTGGAGAC AGAGGATGAG GAGCCTCCAC
CAAGGCGCTG GTGCAACACC TGCCAGCTCT ACTACATGGG GGACCTGATC
CAACACCGCA GGACACAGGA CCACAAGATT GCCAAACAAT CCTTGCGACC
CTTCTGCACC GTTTGCAACC GCTACTTCAA AACCCCTCGC AAGTTTGTGG
AGCACGTGAA GTCCCAGGGG CATAAGGACA AAGCCAAGGA GCTGAAGTCG
CTTGAGAAAG AAATTGCTGG CCAAGATGAG GACCACTTCA TTACAGTGGA
CGCTGTGGGT TGCTTCGAGG GTGATGAAGA AGAGGAAGAG GATGATGAGG
ATGAAGAAGA GATCGAGGTT GAGGAGGAAC TCTGCAAGCA GGTGAGGTCC
AGAGATATAT CCAGAGAGGA GTGGAAGGGC TCGGAGACCT ACAGCCCCAA
TACTGCATAT GGTGTGGACT TCCTGGTGCC CGTGATGGGC TATATCTGCC
GCATCTGCCA CAAGTTCTAT CACAGCAACT CAGGGGCACA GCTCTCCCAC
TGCAAGTCCC TGGGCCACTT TGAGAACCTG CAGAAATACA AGGCGGCCAA
GAACCCCAGC CCCACCACCC GACCTGTGAG CCGCCGGTGC GCAATCAACG
CCCGGAACGC TTTGACAGCC CTGTTCACCT CCAGCGGCCG CCCACCCTCC
CAGCCCAACA CCCAGGACAA AACACCCAGC AAGGTGACGG CTCGACCCTC
CCAGCCCCCA CTACCTCGGC GCTCAACCCG CCTCAAAACC TGATAGAGGG
ACCTCCCTGT CCCTGGCCTG CCTGGGTCCA GATCTGCTAA TGCTTTTTAG
GAGTCTGCCT GGAAACTTTG ACATGGTTCA TGTTTTTACT CAAAATCCAA
TAAAACAAGG TAGTTTGGCT GTGCAAAAAA AAAAAAAAAA AAAAAAAAAA

Figure 21C

Exon 6 minus transcript

TGGGGGCTGC GGGGCCGGCC CATCCGTGGG GGCGACTTGA GCGTTGAGGG
CGCGCGGGGA GGCGAGCCAC CATGTTCAGC CAGCAGCAGC AGCAGCTCCA
GCAACAGCAG CAGCAGCTCC AGCAGTTACA GCAGCAGCAG CTCCAGCAGC
AGCAATTGCA GCAGCAGCAG TTACTGCAGC TCCAGCAGCT GCTCCAGCAG
TCCCCACCAC AGGCCCCGTT GCCCATGGCT GTCAGCCGGG GGCTCCCCCC
GCAGCAGCCA CAGCAGCCGC TTCTGAATCT CCAGGGCACC AACTCAGCCT
CCCTCCTCAA CGGCTCCATG CTGCAGAGAG CTTTGCTTTT ACAGCAGTTG
CAAGGACTGG ACCAGTTTGC AATGCCACCA GCCACGTATG ACACTGCCGG
TCTCACCATG CCCACAGCAA CACTGGGTAA CCTCCGAGGC TATGGCATGG
CATCCCCAGG CCTCGCAGCC CCCAGCCTCA CACCCCCACA ACTGGCCACT
CCAAATTTGC AACAGTTCTT TCCCCAGGCC ACTCGCCAGT CCTTGCTGGG
ACCTCCTCCT GTTGGGGTCC CCATGAACCC TTCCCAGTTC AACCTTTCAG
GACGGAACCC CCAGAAACAG GCCCGGACCT CCTCCTCTAC CACCCCCAAT
CGAAAGACAA TGCCTGTGGA AGACAAGTCA GACCCCCCAG AGGGGTCTGA
GGAAGCCGCA GAGCCCCGGA TGGACACACC AGAAGACCAA GATTTACCGC
CCTGCCCAGA GGACATCGCC AAGGAAAAAC GCACTCCAGC ACCTGAGCCT
GAGCCTTGTG AGGCGTCCGA GCTGCCAGCA AAGAGATTGA GGAGCTCAGA
AGAGCCCACA GAGAAGGAAC CTCCAGGGCA GTTACAGGTG AAGGCCCAGC
CGCAGGCCCG GATGACAGTA CCGAAACAGA CACAGACACC AGACCTGCTG
CCTGAGGCCC TGGAAGCCCA AGTGCTGCCA CGATTCCAGC CACGGGTCCT
GCAGGTCCAG GCCCAGGTGC AGTCACAGAC TCAGCCGCGG ATACCATCCA
CAGACACCCA GGTGCAGCCA AAGCTGCAGA AGCAGGCGCA AACACAGACC
TCTCCAGAGC ACTTAGTGCT GCAACAGAAG CAGGTGCAGC CACAGCTGCA
GCAGGAGGCA GAGCCACAGA AGCAGGTGCA GCCACAGGTA CAGCCACAGG
CACATTCACA GGGCCCAAGG CAGGTGCAGC TGCAGCAGGA GGCAGAGCCG
CTGAAGCAGG TGCAGCCACA GGTGCAGCCC CAGGCACATT CACAGCCCCC
AAGGCAGGTG CAGCTGCAGC TGCAGAAGCA GGTCCAGACA CAGACATATC
CACAGGTCCA CACACAGGCA CAGCCAAGCG TCCAGCCACA GGAGCATCCT
CCAGCGCAGG TGTCAGTACA GCCACCAGAG CAGACCCATG AGCAGCCTCA
CACCCAGCCG CAGGTGTCGT TGCTGGCTCC AGAGCAAACA CCAGTTGTGG
TTCATGTCTG CGGGCTGGAG ATGCCACCTG ATGCAGTAGA AGCTGGTGGA
GGCATGGAAA AGACCTTGCC AGAGCCTGTG GGCACCCAAG TCAGCATGGA
AGAGATTCAG AATGAGTCGG CCTGTGGCCT AGATGTGGGA GAATGTGAAA
ACAGAGCGAG AGAGATGCCA GGGGTATGGG GCGCCGGGGG CTCCCTGAAG
GTCACCATTC TGCAGAGCAG TGACAGCCGG GCCTTTAGCA CTGTACCCCT
GACACCTGTC CCCCGCCCCA GTGACTCCGT CTCCTCCACC CCTGCGGCTA
CCAGCACTCC CTCTAAGCAG GCCCTCCAGT TCTTCTGCTA CATCTGCAAG
GCCAGCTGCT CCAGCCAGCA GGAGTTCCAG GACCACATGT CGGAGCCTCA
GCACCAGCAG CGGCTAGGGG AGATCCAGCA CATGAGCCAA GCCTGCCTCC
TGTCCCTGCT GCCCGTGCCC CGGGACGTCC TGGAGACAGA GGATGAGGAG
CCTCCACCAA GGCGCTGGTG CAACACCTGC CAGCTCTACT ACATGGGGGA
CCTGATCCAA CACCGCAGGA CACAGGACCA CAAGATTGCC AAACAATCCT
TGCGACCCTT CTGCACCGTT TGCAACCGCT ACTTCAAAAC CCCTCGCAAG
TTTGTGGAGC ACGTGAAGTC CCAGGGGCAT AAGGACAAAG CCAAGGAGCT
GAAGTCGCTT GAGAAAGAAA TTGCTGGCCA AGATGAGGAC CACTTCATTA
CAGTGGACGC TGTGGGTTGC TTCGAGGGTG ATGAAGAAGA GGAAGAGGAT
GATGAGGATG AAGAAGAGAT CGAGGTTGAG GAGGAACTCT GCAAGCAGGT
GAGGTCCAGA GATATATCCA GAGAGGAGTG GAAGGGCTCG GAGACCTACA
GCCCCAATAC TGCATATGGT GTGGACTTCC TGGTGCCCGT GATGGGCTAT
ATCTGCCGCA TCTGCCACAA GTTCTATCAC AGCAACTCAG GGGCACAGCT
CTCCCACTGC AAGTCCCTGG GCCACTTTGA GAACCTGCAG AAATACAAGG
CGGCCAAGAA CCCCAGCCCC ACCACCCGAC CTGTGAGCCG CCGGTGCGCA
ATCAACGCCC GGAACGCTTT GACAGCCCTG TTCACCTCCA GCGGCCGCCC
ACCCTCCCAG CCCAACACCC AGGACAAAAC ACCCAGCAAG GTGACGGCTC
GACCCTCCCA GCCCCCACTA CCTCGGCGCT CAACCCGCCT CAAAACCTGA
TAGAGGGACC TCCCTGTCCC TGGCCTGCCT GGGTCCAGAT CTGCTAATGC
TTTTTAGGAG TCTGCCTGGA AACTTTGACA TGGTTCATGT TTTTACTCAA
AATCCAATAA AACAAGGTAG TTTGGCTGTG CAAAAAAAAA AAAAAAAAAA
AAAAAAA

Figure 21D

Exon 8 minus variant 1

TGGGGGCTGC GGGGCCGGCC CATCCGTGGG GGCGACTTGA GCGTTGAGGG
CGCGCGGGGA GGCGAGCCAC CATGTTCAGC CAGCAGCAGC AGCAGCTCCA
GCAACAGCAG CAGCAGCTCC AGCAGTTACA GCAGCAGCAG CTCCAGCAGC
AGCAATTGCA GCAGCAGCAG TTACTGCAGC TCCAGCAGCT GCTCCAGCAG
TCCCCACCAC AGGCCCCGTT GCCCATGGCT GTCAGCCGGG GGCTCCCCCC
GCAGCAGCCA CAGCAGCCGC TTCTGAATCT CCAGGGCACC AACTCAGCCT
CCCTCCTCAA CGGCTCCATG CTGCAGAGAG CTTTGCTTTT ACAGCAGTTG
CAAGGACTGG ACCAGTTTGC AATGCCACCA GCCACGTATG ACACTGCCGG
TCTCACCATG CCCACAGCAA CACTGGGTAA CCTCCGAGGC TATGGCATGG
CATCCCCAGG CCTCGCAGCC CCCAGCCTCA CACCCCCACA ACTGGCCACT
CCAAATTTGC AACAGTTCTT TCCCCAGGCC ACTCGCCAGT CCTTGCTGGG
ACCTCCTCCT GTTGGGGTCC CCATGAACCC TTCCCAGTTC AACCTTTCAG
GACGGAACCC CCAGAAACAG GCCCGGACCT CCTCCTCTAC CACCCCCAAT
CGAAAGGATT CTTCTTCTCA GACAATGCCT GTGGAAGACA AGTCAGACCC
CCCAGAGGGG TCTGAGGAAG CCGCAGAGCC CCGGATGGAC ACACCAGAAG
ACCAAGATTT ACCGCCCTGC CCAGAGGACA TCGCCAAGGA AAAACGCACT
CCAGCACCTG AGCCTGAGCC TTGTGAGGCG TCCGAGCTGC CAGCAAAGAG
ATTGAGGAGC TCAGAAGAGC CCACAGAGAA GGAACCTCCA GGGCAGTTAC
AGGTGAAGGC CCAGCCGCAG GCCCGGATGA CAGTACCGAA ACAGACACAG
ACACCAGACC TGCTGCCTGA GGCCCTGGAA GCCCAAGTGC TGCCACGATT
CCAGCCACGG GTCCTGCAGG TCCAGGCCCA GGTGCAGTCA CAGACTCAGC
CGCGGATACC ATCCACAGAC ACCCAGGTGC AGCCAAAGCT GCAGAAGCAG
GCGCAAACAC AGACCTCTCC AGAGCACTTA GTGCTGCAAC AGAAGCAGGT
GCAGCCACAG CTGCAGCAGG AGGCAGAGCC ACAGAAGCAG GTGCAGCCAC
AGGTACAGCC ACAGGCACAT TCACAGGGCC CAAGGCAGGT GCAGCTGCAG
CAGGAGGCAG AGCCGCTGAA GCAGGTGCAG ACAG GTCCACACAC AGGCA
CAGCC AAGCGTCCAG
CCACAGGAGC ATCCTCCAGC GCAGGTGTCA GTACAGCCAC CAGAGCAGAC
CCATGAGCAG CCTCACACCC AGCCGCAGGT GTCGTTGCTG GCTCCAGAGC
AAACACCAGT TGTGGTTCAT GTCTGCGGGC TGGAGATGCC ACCTGATGCA
GTAGAAGCTG GTGGAGGCAT GGAAAAGACC TTGCCAGAGC CTGTGGGCAC
CCAAGTCAGC ATGGAAGAGA TTCAGAATGA GTCGGCCTGT GGCCTAGATG
TGGGAGAATG TGAAAACAGA GCGAGAGAGA TGCCAGGGGT ATGGGGCGCC
GGGGGCTCCC TGAAGGTCAC CATTCTGCAG AGCAGTGACA GCCGGGCCTT
TAGCACTGTA CCCCTGACAC CTGTCCCCCG CCCCAGTGAC TCCGTCTCCT
CCACCCCTGC GGCTACCAGC ACTCCCTCTA AGCAGGCCCT CCAGTTCTTC
TGCTACATCT GCAAGGCCAG CTGCTCCAGC CAGCAGGAGT TCCAGGACCA
CATGTCGGAG CCTCAGCACC AGCAGCGGCT AGGGGAGATC CAGCACATGA
GCCAAGCCTG CCTCCTGTCC CTGCTGCCCG TGCCCCGGGA CGTCCTGGAG
ACAGAGGATG AGGAGCCTCC ACCAAGGCGC TGGTGCAACA CCTGCCAGCT
CTACTACATG GGGGACCTGA TCCAACACCG CAGGACACAG GACCACAAGA
TTGCCAAACA ATCCTTGCGA CCCTTCTGCA CCGTTTGCAA CCGCTACTTC
AAAACCCCTC GCAAGTTTGT GGAGCACGTG AAGTCCCAGG GGCATAAGGA
CAAAGCCAAG GAGCTGAAGT CGCTTGAGAA AGAAATTGCT GGCCAAGATG
AGGACCACTT CATTACAGTG GACGCTGTGG GTTGCTTCGA GGGTGATGAA
GAAGAGGAAG AGGATGATGA GGATGAAGAA GAGATCGAGG TTGAGGAGGA
ACTCTGCAAG CAGGTGAGGT CCAGAGATAT ATCCAGAGAG GAGTGGAAGG
GCTCGGAGAC CTACAGCCCC AATACTGCAT ATGGTGTGGA CTTCCTGGTG
CCCGTGATGG GCTATATCTG CCGCATCTGC CACAAGTTCT ATCACAGCAA
CTCAGGGGCA CAGCTCTCCC ACTGCAAGTC CCTGGGCCAC TTTGAGAACC
TGCAGAAATA CAAGGCGGCC AAGAACCCCA GCCCCACCAC CCGACCTGTG
AGCCGCCGGT GCGCAATCAA CGCCCGGAAC GCTTTGACAG CCCTGTTCAC
CTCCAGCGGC CGCCCACCCT CCCAGCCCAA CACCCAGGAC AAAACACCCA
GCAAGGTGAC GGCTCGACCC TCCCAGCCCC CACTACCTCG GCGCTCAACC
CGCCTCAAAA CCTGATAGAG GGACCTCCCT GTCCCTGGCC TGCCTGGGTC
CAGATCTGCT AATGCTTTTT AGGAGTCTGC CTGGAAACTT TGACATGGTT
CATGTTTTTA CTCAAAATCC AATAAAACAA GGTAGTTTGG CTGTGCAAAA
AAAAAAAAAA AAAAAAAAAA AA

Figure 21E

Exon 8 minus variant 2

TGGGGGCTGC GGGGCCGGCC CATCCGTGGG GGCGACTTGA GCGTTGAGGG
CGCGCGGGGA GGCGAGCCAC CATGTTCAGC CAGCAGCAGC AGCAGCTCCA
GCAACAGCAG CAGCAGCTCC AGCAGTTACA GCAGCAGCAG CTCCAGCAGC
AGCAATTGCA GCAGCAGCAG TTACTGCAGC TCCAGCAGCT GCTCCAGCAG
TCCCCACCAC AGGCCCCGTT GCCCATGGCT GTCAGCCGGG GGCTCCCCCC
GCAGCAGCCA CAGCAGCCGC TTCTGAATCT CCAGGGCACC AACTCAGCCT
CCCTCCTCAA CGGCTCCATG CTGCAGAGAG CTTTGCTTTT ACAGCAGTTG
CAAGGACTGG ACCAGTTTGC AATGCCACCA GCCACGTATG ACACTGCCGG
TCTCACCATG CCCACAGCAA CACTGGGTAA CCTCCGAGGC TATGGCATGG
CATCCCCAGG CCTCGCAGCC CCCAGCCTCA CACCCCCACA ACTGGCCACT
CCAAATTTGC AACAGTTCTT TCCCCAGGCC ACTCGCCAGT CCTTGCTGGG
ACCTCCTCCT GTTGGGGTCC CCATGAACCC TTCCCAGTTC AACCTTTCAG
GACGGAACCC CCAGAAACAG GCCCGGACCT CCTCCTCTAC CACCCCCAAT
CGAAAGGATT CTTCTTCTCA GACAATGCCT GTGGAAGACA AGTCAGACCC
CCCAGAGGGG TCTGAGGAAG CCGCAGAGCC CCGGATGGAC ACACCAGAAG
ACCAAGATTT ACCGCCCTGC CCAGAGGACA TCGCCAAGGA AAAACGCACT
CCAGCACCTG AGCCTGAGCC TTGTGAGGCG TCCGAGCTGC CAGCAAAGAG
ATTGAGGAGC TCAGAAGAGC CCACAGAGAA GGAACCTCCA GGGCAGTTAC
AGGTGAAGGC CCAGCCGCAG GCCCGGATGA CAGTACCGAA ACAGACACAG
ACACCAGACC TGCTGCCTGA GGCCCTGGAA GCCCAAGTGC TGCCACGATT
CCAGCCACGG GTCCTGCAGG TCCAGGCCCA GGTGCAGTCA CAGACTCAGC
CGCGGATACC ATCCACAGAC ACCCAGGTGC AGCCAAAGCT GCAGAAGCAG
GCGCAAACAC AGACCTCTCC AGAGCACTTA GTGCTGCAAC AGAAGCAGGT
GCAGCCACAG CTGCAGCAGG AGGCAGAGCC ACAGAAGCAG GTGCAGCCAC
AGGTCCACAC ACAGGCACAG CCAAGCGTCC AGCCACAGGA GCATCCTCCA
GCGCAGGTGT CAGTACAGCC ACCAGAGCAG ACCCATGAGC AGCCTCACAC
CCAGCCGCAG GTGTCGTTGC TGGCTCCAGA GCAAACACCA GTTGTGGTTC
ATGTCTGCGG GCTGGAGATG CCACCTGATG CAGTAGAAGC TGGTGGAGGC
ATGGAAAAGA CCTTGCCAGA GCCTGTGGGC ACCCAAGTCA GCATGGAAGA
GATTCAGAAT GAGTCGGCCT GTGGCCTAGA TGTGGGAGAA TGTGAAAACA
GAGCGAGAGA GATGCCAGGG GTATGGGGCG CCGGGGGCTC CCTGAAGGTC
ACCATTCTGC AGAGCAGTGA CAGCCGGGCC TTTAGCACTG TACCCCTGAC
ACCTGTCCCC CGCCCCAGTG ACTCCGTCTC CTCCACCCCT GCGGCTACCA
GCACTCCCTC TAAGCAGGCC CTCCAGTTCT TCTGCTACAT CTGCAAGGCC
AGCTGCTCCA GCCAGCAGGA GTTCCAGGAC CACATGTCGG AGCCTCAGCA
CCAGCAGCGG CTAGGGGAGA TCCAGCACAT GAGCCAAGCC TGCCTCCTGT
CCCTGCTGCC CGTGCCCCGG GACGTCCTGG AGACAGAGGA TGAGGAGCCT
CCACCAAGGC GCTGGTGCAA CACCTGCCAG CTCTACTACA TGGGGGACCT
GATCCAACAC CGCAGGACAC AGGACCACAA GATTGCCAAA CAATCCTTGC
GACCCTTCTG CACCGTTTGC AACCGCTACT TCAAAACCCC TCGCAAGTTT
GTGGAGCACG TGAAGTCCCA GGGGCATAAG GACAAAGCCA AGGAGCTGAA
GTCGCTTGAG AAAGAAATTG CTGGCCAAGA TGAGGACCAC TTCATTACAG
TGGACGCTGT GGGTTGCTTC GAGGGTGATG AAGAAGAGGA AGAGGATGAT
GAGGATGAAG AAGAGATCGA GGTTGAGGAG GAACTCTGCA AGCAGGTGAG
GTCCAGAGAT ATATCCAGAG AGGAGTGGAA GGGCTCGGAG ACCTACAGCC
CCAATACTGC ATATGGTGTG GACTTCCTGG TGCCCGTGAT GGGCTATATC
TGCCGCATCT GCCACAAGTT CTATCACAGC AACTCAGGGG CACAGCTCTC
CCACTGCAAG TCCCTGGGCC ACTTTGAGAA CCTGCAGAAA TACAAGGCGG
CCAAGAACCC CAGCCCCACC ACCCGACCTG TGAGCCGCCG GTGCGCAATC
AACGCCCGGA ACGCTTTGAC AGCCCTGTTC ACCTCCAGCG GCCGCCCACC
CTCCCAGCCC AACACCCAGG ACAAAACACC CAGCAAGGTG ACGGCTCGAC
CCTCCCAGCC CCCACTACCT CGGCGCTCAA CCCGCCTCAA AACCTGATAG
AGGGACCTCC CTGTCCCTGG CCTGCCTGGG TCCAGATCTG CTAATGCTTT
TTAGGAGTCT GCCTGGAAAC TTTGACATGG TTCATGTTTT TACTCAAAAT
CCAATAAAAC AAGGTAGTTT GGCTGTGCAA AAAAAAAAAA AAAAAAAAAAAAAA

Figure 21F

Exon 8 minus variant 3

TGGGGGCTGC GGGGCCGGCC CATCCGTGGG GGCGACTTGA GCGTTGAGGG
CGCGCGGGGA GGCGAGCCAC CATGTTCAGC CAGCAGCAGC AGCAGCTCCA
GCAACAGCAG CAGCAGCTCC AGCAGTTACA GCAGCAGCAG CTCCAGCAGC
AGCAATTGCA GCAGCAGCAG TTACTGCAGC TCCAGCAGCT GCTCCAGCAG
TCCCCACCAC AGGCCCCGTT GCCCATGGCT GTCAGCCGGG GGCTCCCCCC
GCAGCAGCCA CAGCAGCCGC TTCTGAATCT CCAGGGCACC AACTCAGCCT
CCCTCCTCAA CGGCTCCATG CTGCAGAGAG CTTTGCTTTT ACAGCAGTTG
CAAGGACTGG ACCAGTTTGC AATGCCACCA GCCACGTATG ACACTGCCGG
TCTCACCATG CCCACAGCAA CACTGGGTAA CCTCCGAGGC TATGGCATGG
CATCCCCAGG CCTCGCAGCC CCCAGCCTCA CACCCCCACA ACTGGCCACT
CCAAATTTGC AACAGTTCTT TCCCCAGGCC ACTCGCCAGT CCTTGCTGGG
ACCTCCTCCT GTTGGGGTCC CCATGAACCC TTCCCAGTTC AACCTTTCAG
GACGGAACCC CCAGAAACAG GCCCGGACCT CCTCCTCTAC CACCCCCAAT
CGAAAGGATT CTTCTTCTCA GACAATGCCT GTGGAAGACA AGTCAGACCC
CCCAGAGGGG TCTGAGGAAG CCGCAGAGCC CCGGATGGAC ACACCAGAAG
ACCAAGATTT ACCGCCCTGC CCAGAGGACA TCGCCAAGGA AAAACGCACT
CCAGCACCTG AGCCTGAGCC TTGTGAGGCG TCCGAGCTGC CAGCAAAGAG
ATTGAGGAGC TCAGAAGAGC CCACAGAGAA GGAACCTCCA GGGCAGTTAC
AGGTGAAGGC CCAGCCGCAG GCCCGGATGA CAGTACCGAA ACAGACACAG
ACACCAGACC TGCTGCCTGA GGCCCTGGAA GCCCAAGTGC TGCCACGATT
CCAGCCACGG GTCCTGCAGG TCCAGGCCTC CACAGGTCCA CACACAGGCA
CAGCCAAGCG TCCAGCCACA GGAGCATCCT CCAGCGCAGG TGTCAGTACA
GCCACCAGAG CAGACCCATG AGCAGCCTCA CACCCAGCCG CAGGTGTCGT
TGCTGGCTCC AGAGCAAACA CCAGTTGTGG TTCATGTCTG CGGGCTGGAG
ATGCCACCTG ATGCAGTAGA AGCTGGTGGA GGCATGGAAA AGACCTTGCC
AGAGCCTGTG GGCACCCAAG TCAGCATGGA AGAGATTCAG AATGAGTCGG
CCTGTGGCCT AGATGTGGGA GAATGTGAAA ACAGAGCGAG AGAGATGCCA
GGGGTATGGG GCGCCGGGGG CTCCCTGAAG GTCACCATTC TGCAGAGCAG
TGACAGCCGG GCCTTTAGCA CTGTACCCCT GACACCTGTC CCCCGCCCCA
GTGACTCCGT CTCCTCCACC CCTGCGGCTA CCAGCACTCC CTCTAAGCAG
GCCCTCCAGT TCTTCTGCTA CATCTGCAAG GCCAGCTGCT CCAGCCAGCA
GGAGTTCCAG GACCACATGT CGGAGCCTCA GCACCAGCAG CGGCTAGGGG
AGATCCAGCA CATGAGCCAA GCCTGCCTCC TGTCCCTGCT GCCCGTGCCC
CGGGACGTCC TGGAGACAGA GGATGAGGAG CCTCCACCAA GGCGCTGGTG
CAACACCTGC CAGCTCTACT ACATGGGGGA CCTGATCCAA CACCGCAGGA
CACAGGACCA CAAGATTGCC AAACAATCCT TGCGACCCTT CTGCACCGTT
TGCAACCGCT ACTTCAAAAC CCCTCGCAAG TTTGTGGAGC ACGTGAAGTC
CCAGGGGCAT AAGGACAAAG CCAAGGAGCT GAAGTCGCTT GAGAAAGAAA
TTGCTGGCCA AGATGAGGAC CACTTCATTA CAGTGGACGC TGTGGGTTGC
TTCGAGGGTG ATGAAGAAGA GGAAGAGGAT GATGAGGATG AAGAAGAGAT
CGAGGTTGAG GAGGAACTCT GCAAGCAGGT GAGGTCCAGA GATATATCCA
GAGAGGAGTG GAAGGGCTCG GAGACCTACA GCCCCAATAC TGCATATGGT
GTGGACTTCC TGGTGCCCGT GATGGGCTAT ATCTGCCGCA TCTGCCACAA
GTTCTATCAC AGCAACTCAG GGGCACAGCT CTCCCACTGC AAGTCCCTGG
GCCACTTTGA GAACCTGCAG AAATACAAGG CGGCCAAGAA CCCCAGCCCC
ACCACCCGAC CTGTGAGCCG CCGGTGCGCA ATCAACGCCC GGAACGCTTT
GACAGCCCTG TTCACCTCCA GCGGCCGCCC ACCCTCCCAG CCCAACACCC
AGGACAAAAC ACCCAGCAAG GTGACGGCTC GACCCTCCCA GCCCCCACTA
CCTCGGCGCT CAACCCGCCT CAAAACCTGA TAGAGGGACC TCCCTGTCCC
TGGCCTGCCT GGGTCCAGAT CTGCTAATGC TTTTTAGGAG TCTGCCTGGA
AACTTTGACA TGGTTCATGT TTTTACTCAA AATCCAATAA AACAAGGTAG
TTTGGCTGTG CAAAAAAAAA AAAAAAAAAA AAAAAAA

Figure 21G

Exon 14 minus transcript

TGGGGGCTGC GGGGCCGGCC CATCCGTGGG GGCGACTTGA GCGTTGAGGG
CGCGCGGGGA GGCGAGCCAC CATGTTCAGC CAGCAGCAGC AGCAGCTCCA
GCAACAGCAG CAGCAGCTCC AGCAGTTACA GCAGCAGCAG CTCCAGCAGC
AGCAATTGCA GCAGCAGCAG TTACTGCAGC TCCAGCAGCT GCTCCAGCAG
TCCCCACCAC AGGCCCCGTT GCCCATGGCT GTCAGCCGGG GGCTCCCCCC
GCAGCAGCCA CAGCAGCCGC TTCTGAATCT CCAGGGCACC AACTCAGCCT
CCCTCCTCAA CGGCTCCATG CTGCAGAGAG CTTTGCTTTT ACAGCAGTTG
CAAGGACTGG ACCAGTTTGC AATGCCACCA GCCACGTATG ACACTGCCGG
TCTCACCATG CCCACAGCAA CACTGGGTAA CCTCCGAGGC TATGGCATGG
CATCCCCAGG CCTCGCAGCC CCCAGCCTCA CACCCCCACA ACTGGCCACT
CCAAATTTGC AACAGTTCTT TCCCCAGGCC ACTCGCCAGT CCTTGCTGGG
ACCTCCTCCT GTTGGGGTCC CCATGAACCC TTCCCAGTTC AACCTTTCAG
GACGGAACCC CCAGAAACAG GCCCGGACCT CCTCCTCTAC CACCCCCAAT
CGAAAGGATT CTTCTTCTCA GACAATGCCT GTGGAAGACA AGTCAGACCC
CCCAGAGGGG TCTGAGGAAG CCGCAGAGCC CCGGATGGAC ACACCAGAAG
ACCAAGATTT ACCGCCCTGC CCAGAGGACA TCGCCAAGGA AAAACGCACT
CCAGCACCTG AGCCTGAGCC TTGTGAGGCG TCCGAGCTGC CAGCAAAGAG
ATTGAGGAGC TCAGAAGAGC CCACAGAGAA GGAACCTCCA GGGCAGTTAC
AGGTGAAGGC CCAGCCGCAG GCCCGGATGA CAGTACCGAA ACAGACACAG
ACACCAGACC TGCTGCCTGA GGCCCTGGAA GCCCAAGTGC TGCCACGATT
CCAGCCACGG GTCCTGCAGG TCCAGGCCCA GGTGCAGTCA CAGACTCAGC
CGCGGATACC ATCCACAGAC ACCCAGGTGC AGCCAAAGCT GCAGAAGCAG
GCGCAAACAC AGACCTCTCC AGAGCACTTA GTGCTGCAAC AGAAGCAGGT
GCAGCCACAG CTGCAGCAGG AGGCAGAGCC ACAGAAGCAG GTGCAGCCAC
AGGTACAGCC ACAGGCACAT TCACAGGGCC CAAGGCAGGT GCAGCTGCAG
CAGGAGGCAG AGCCGCTGAA GCAGGTGCAG CCACAGGTGC AGCCCCAGGC
ACATTCACAG CCCCCAAGGC AGGTGCAGCT GCAGCTGCAG AAGCAGGTCC
AGACACAGAC ATATCCACAG GTCCACACAC AGGCACAGCC AAGCGTCCAG
CCACAGGAGC ATCCTCCAGC GCAGGTGTCA GTACAGCCAC CAGAGCAGAC
CCATGAGCAG CCTCACACCC AGCCGCAGGT GTCGTTGCTG GCTCCAGAGC
AAACACCAGT TGTGGTTCAT GTCTGCGGGC TGGAGATGCC ACCTGATGCA
GTAGAAGCTG GTGGAGGCAT GGAAAAGACC TTGCCAGAGC CTGTGGGCAC
CCAAGTCAGC ATGGAAGAGA TTCAGAATGA GTCGGCCTGT GGCCTAGATG
TGGGAGAATG TGAAAACAGA GCGAGAGAGA TGCCAGGGGT ATGGGGCGCC
GGGGGCTCCC TGAAGGTCAC CATTCTGCAG AGCAGTGACA GCCGGGCCTT
TAGCACTGTA CCCCTGACAC CTGTCCCCCG CCCCAGTGAC TCCGTCTCCT
CCACCCCTGC GGCTACCAGC ACTCCCTCTA AGCAGGCCCT CCAGTTCTTC
TGCTACATCT GCAAGGCCAG CTGCTCCAGC CAGCAGGAGT TCCAGGACCA
CATGTCGGAG CCTCAGCACC AGCAGCGGCT AGGGGAGATC CAGCACATGA
GCCAAGCCTG CCTCCTGTCC CTGCTGCCCG TGCCCCGGGA CGTCCTGGAG
ACAGAGGATG AGGAGCCTCC ACCAAGGCGC TGGTGCAACA CCTGCCAGCT
CTACTACATG GGGGACCTGA TCCAACACCG CAGGACACAG GACCACAAGA
TTGCCAAACA ATCCTTGCGA CCCTTCTGCA CCGTTTGCAA CCGCTACTTC
AAAACCCCTC GCAAGTTTGT GGAGCACGTG AAGTCCCAGG GGCATAAGGA
CAAAGCCAAG GAGCTGAAGT CGCTTGAGAA AGAAATTGCT GGCCAAGATG
AGGACCACTT CATTACAGTG GACGCTGTGG GTTGCTTCGA GGGTGATGAA
GAAGAGGAAG AGGATGATGA GGATGAAGAA GAGATCGAGG TGAGGTCCAG
AGATATATCC AGAGAGGAGT GGAAGGGCTC GGAGACCTAC AGCCCCAATA
CTGCATATGG TGTGGACTTC CTGGTGCCCG TGATGGGCTA TATCTGCCGC
ATCTGCCACA AGTTCTATCA CAGCAACTCA GGGGCACAGC TCTCCCACTG
CAAGTCCCTG GGCCACTTTG AGAACCTGCA GAAATACAAG GCGGCCAAGA
ACCCCAGCCC CACCACCCGA CCTGTGAGCC GCCGGTGCGC AATCAACGCC
CGGAACGCTT TGACAGCCCT GTTCACCTCC AGCGGCCGCC CACCCTCCCA
GCCCAACACC CAGGACAAAA CACCCAGCAA GGTGACGGCT CGACCCTCCC
AGCCCCCACT ACCTCGGCGC TCAACCCGCC TCAAAACCTG ATAGAGGGAC
CTCCCTGTCC CTGGCCTGCC TGGGTCCAGA TCTGCTAATG CTTTTTAGGA
GTCTGCCTGG AAACTTTGAC ATGGTTCATG TTTTTACTCA AAATCCAATA
AAACAAGGTA GTTTGGCTGT GCAAAAAAAA AAAAAAAAAA AAAAAAAA

Figure 21H

Also to be protected are transcripts which lack combinations of the variable exons. For example:-

Exon 14 and partial exon 6 minus variant

TGGGGGCTGC GGGGCCGGCC CATCCGTGGG GGCGACTTGA GCGTTGAGGG
CGCGCGGGGA GGCGAGCCAC CATGTTCAGC CAGCAGCAGC AGCAGCTCCA
GCAACAGCAG CAGCAGCTCC AGCAGTTACA GCAGCAGCAG CTCCAGCAGC
AGCAATTGCA GCAGCAGCAG TTACTGCAGC TCCAGCAGCT GCTCCAGCAG
TCCCCACCAC AGGCCCCGTT GCCCATGGCT GTCAGCCGGG GGCTCCCCCC
GCAGCAGCCA CAGCAGCCGC TTCTGAATCT CCAGGGCACC AACTCAGCCT
CCCTCCTCAA CGGCTCCATG CTGCAGAGAG CTTTGCTTTT ACAGCAGTTG
CAAGGACTGG ACCAGTTTGC AATGCCACCA GCCACGTATG ACACTGCCGG
TCTCACCATG CCCACAGCAA CACTGGGTAA CCTCCGAGGC TATGGCATGG
CATCCCCAGG CCTCGCAGCC CCCAGCCTCA CACCCCCACA ACTGGCCACT
CCAAATTTGC AACAGTTCTT TCCCCAGGCC ACTCGCCAGT CCTTGCTGGG
ACCTCCTCCT GTTGGGGTCC CCATGAACCC TTCCCAGTTC AACCTTTCAG
GACGGAACCC CCAGAAACAG GCCCGGACCT CCTCCTCTAC CACCCCCAAT
CGAAAGACAA TGCCTGTGGA AGACAAGTCA GACCCCCCAG AGGGGTCTGA
GGAAGCCGCA GAGCCCCGGA TGGACACACC AGAAGACCAA GATTTACCGC
CCTGCCCAGA GGACATCGCC AAGGAAAAAC GCACTCCAGC ACCTGAGCCT
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